

Personal

D

Group	HW
Class	40
Piece	89

X 6(B) PART II  
TYPEX  
NFAK 621, etc.

6C  
1178

6(B)

**TOP SECRET**

DS/6(B)/2078

*[Handwritten initials]*

L

With reference to paras II 2 (iii) and 13 of Ticom/I-197, in which Amtsrat SCHULZE of OKW/4 SKL III, states that a Dr. STEINBACH worked on Typex with HUETTENHAIN, we have no other references to any such official in OKW/Chi, etc., but there are frequent references to Dr. STEIN, always in conjunction with HUETTENHAIN. He was one of the chief cypher security officers of OKW and was an expert on SZ 40, 42. In D-57 (Page 8) he is mentioned as having worked in collaboration with the Navy, and it seems possible that SCHULZE thus heard of him with HUETTENHAIN and muddled the names. If this is in fact the man, I doubt if he could tell us more than HUETTENHAIN about Typex. If not, it would be highly suspicious that HUETTENHAIN etc, had not mentioned him. I feel that the former theory is almost certainly the correct one and do not propose to try to follow up STEINBACH.

2. Relevant Ticom references are :-

- Ticom/I-31, page 17.
- Ticom/I-57, page 5 and 7.
- Ticom/I-39, page 3.
- Ticom/D-59, item 14.
- Ticom/D-59, page, 8, etc.

*[Handwritten signature]*

10th July, 1946.

HW 40/89



I can find no reference in OKW to Dr. Steinbach, but there are frequent references to Dr. Stein - always in conjunction with Huettenhain. He was one of the chief cypher security officers of OKW and was an expert on SZ 40, 42. In D 57 (p. 8) he is mentioned as having worked in collaboration with the Navy, and it seems possible that Schulze thus heard of him with Huettenhain and muddled the names. If this is in fact the man, I doubt if he could tell us more than Huettenhain about Typex. If not, it would be highly suspicious that Huettenhain, etc, had not mentioned him, and he should be followed up. I incline towards the former theory.

(See I 31 p. 17  
I 57 p. 5 and 7  
I 39 p. 3  
D. 59 item 14  
D 59 p. 8, etc) B.

W.S.  
10/1/46

COPY

TOBRUK CIPHERS

6(B)

Action taken on 20th June 1942.  
Surrendered on 21st June 1942.

Tobruk 88 Area.

1. 88 area was situated near the Harbour at Tobruk in underground concrete caves built by the Italians.  
Staff: Captain and 3 Sergts.  
  
Documents held - W. Books, Z series R/T also R.A.F. and Navy Documents.
2. Yes. Capt. MacFarlane i/c of Cipher S.A. Division dealt with all cipher procedure.
3. I received orders on the 16th June 1942 at 2 p.m. from Major Mann, R. Signals i/c Tobruk Signals to take all my Documents and join Cipher H.Q. 2nd South African Division at Palestrino Caves. These caves were about 6 miles from Tobruk Town. I arrived with Staff and Documents about 4 p.m. 16th and reported to Col. Henderson O.C. Comdg. 2 S. African Signals who introduced me to Major General Clopper and G 1, Col. Krieg. I was instructed to take all Documents to 2nd S.A. Ciphers and combine.

Palestrino Caves. These were huge concrete halls built by the Italians, inside the escarpment and used by H.Q. South African Div. as H.Q. The General's Office was 40 yards outside the caves in a brick building.

Both Cipher Staffs combined. The Cipher Office was partitioned off from Signals, i.e. Cipher Officer, Switch Board and Sigs in the same hall.

4. Captain MacFarlane was in charge of Ciphers 2nd South African Division.  
Staff: Captain and 9 O.R.'s.
5. The S.A. held all Ciphers issued to a Div. at that period also Brigade Ciphers.  
  
They had no Typex Machine on my arrival.
6. On the 18th June, 1942, a Typex Machine was brought by a representative (Ciphers) Capt. from 8th Army and installed in Office. Capt. left next day by boat.
  - (a) One set.
  - (b) One set.
  - (c) No.
  - (d) As used by 8th Army at that period.
  - (e) As used by 8th Army at that period.

7. (a, b, c). The position prior to the destruction of documents :-

On the 20th June 1942 all Cipher Staff were present in the Cipher Office as the situation was critical. At 11 a.m. message sent out by G.O.C. Tobruk was as follows :-

"40 Tanks broken through situation very critical". This message indicated to the Cipher Staff the urgency of all Staff being present and preparation for destruction of documents was arranged. After 1p.m. a continuous stream of Staff Officers gave order and counter-order for destruction. In fact a general flap on. The final order was given by the O.C. Col. Henderson, S.A. Sigs at about 4 p.m. evening of 20th June.

- (d) Cipher Documents were destroyed outside the caves.
- (e) No time was allotted for destruction but there was ample time after the order was received at 4 p.m. to destroy documents. The H.Q.'s left for 6 Bde S. African Division about 7 p.m.

Please turn over

8. I personally supervised the destruction of all 88 Area Cipher Documents. Each leaf of books was separated. Two gallons of petrol was used for this purpose and all burnt. The destruction was done leisurely and completely. A long rod used for the purpose of sifting ashes.

The same was done to the S.A. Cipher Documents by their own staff. One Book W and R/T was taken to 6 South African Bde where G.H.Q. had assembled. This belonged to S. African Ciphers and taken there by a W.O. Ciphers. I presume burnt during the night when no alternative but surrender was recognised.

- (a) The Typex Machine was smashed to pieces by heavy hammers, Fixed Drum Centres beaten out with water piping. Wiring disconnected and broken into fragments, connections smashed flat. In fact no possible clue could be obtained by the enemy.
- (b) Cipher Officers supervised all destruction with Staff, including Officers S. African 10 men, 88 Area 4 men.
- (c) All definitely destroyed by burning and supervised by Cipher Officers.
- (c) (I II III IV) All pieces of Typex Machine were scattered about the hall mixed with switchboard broken pieces and other Signal equipment. There was ample time to make a good job of destruction to all equipment. All internal wiring of Drums was removed - connecting joints smashed to pieces. I can with confidence state that there was no possibility of the enemy gaining any information. The whole staff had time to remove to the 6th Bde S. African Division about 7 miles from Palestirino caves till the surrender was ordered next morning at 7 a.m., 21st June, 1942.

(Signed) E.F. Pryce, Capt.

27 Cipher Section,  
14 Ind Division,  
Chlindwara. ?

24.3.46.



DS/6B/2900

**TOP SECRET**

*B*  
*OR*

L

Colonel Cook has recently arranged for us the interrogation of Dr. Wolfgang FRANZ of OKW/Chi. Attached is a copy of his FRA/41 of 17th May, 1946, which gives an advance report on our question 8 regarding the exploitation of Typex. Unfortunately it is completely vague and it seems unlikely that we shall get anything out of him *on Typex.*

*[Handwritten signature]*

30th May, 1946.



TOP SECRET.

*mu*

To: L.S.I.C.

IN.

From: A.S.A. EUROPE.

T.O.O. 171000Z/5/46.

No: FRA 41.

Date: 17/5/46.

Triples: --- ---

*E.11 in DS. 10/3  
II*

To TICOM from COOK.

Matter referred to in your FRA 18 (GCCS 22071) discussed with FRANX. Homework to be ready on 24th May.

Ref. your question number 8, FRANX has no personal knowledge of North African incident. Recalls HUTTENHAIN tell him about two men being sent to ROMMELL and that they read a system. Have no further knowledge of details. Knows nothing of Doctor WAGNER or his work, although name was familiar. Reaction to question and to all other matters discussed appeared to be one of honest co-operation.

New subject.

Request answers to our FRA 15 on PORETSCHKIN and FRA 31 on HOFFMAN. Also request release on GERHARD ARNDT.

T.O.R. 171143Z/5/46.

No. 662.

ML.

ACTION

INFORMATION

L.91 (3)

~~1000 WVA~~ SP

U.S.L.O.

13 for Miss Hill.

**TOP SECRET**

COPY

EXTRACTS

OUT

*MA*  
T.O.O. 291636Z/3/46

To: A.S.A. EUROPE

From: G.C.C.S.

No: GCCS 22071. Date: 29/3/46. Triples: GEN/SAC

COOK from TICOM.

FRA 14 of 9/3 and GCCS 21514 of 14/3.

Following is brief for interrogation of FRANZ. Suggest that if suitably qualified interrogator not available to conduct a complete oral interrogation all except question 8 might be set as homework. Would however appreciate interrogator's report on subject's reaction to question 8. Questions begin:

.....

8. What does FRANZ know of the work done by Dr. WAGNER of OKW/CHI. It has been stated that as a result of his work a British machine cipher was exploited to a considerable extent in NORTH AFRICA. Give all details.

.....

S.A.C. MINUTE SHEET

FILE DS .....

ACTION

Perrin

Request comments on (14) re  
FRANZ & Typex.

~~R~~  
18.5.46.

INFORMATION

Perrin

Rolf

Ellis

Oliver

Simmons

Pryor

I think this is too vague to  
anything more about. It doesn't  
sound as if we shall get anything  
out of F. on Typex.

DISPOSAL

D.S



Ch. St. Lumber Steel)

8

6(B)

This is most unsatisfactory. There is little doubt in my mind that at least two Typex machines were captured intact in N. Africa in 1942 - if not at Tobruk, then somewhere else. Haunhorst and Possel gave an accurate and detailed account of the external appearance of the two machines when they were interrogated on 1.9.43. (see enclosure (b) to DS/168 of 7.11.1943 and summary on p.2 of ZIP/SAC/G.34 of 22.9.1945).

It is of course not impossible that two Typex machines captured in a different theatre were sent to NFAK.621 in N. Africa for the local exploitation of Typex keys and documents captured at Tobruk or elsewhere in N. Africa.

I think we should ask Signals 6 to let us see the complete reply to the questionnaire and not only this small extract.

(Signed) R. Dudley-Smith.

8.5.46.



6(B)

COPY

The War Office,  
London, S.W.1.

0043/Signals 6.

24th April, 1946.

The Secretary,  
Cypher Policy Board,  
C/o Room 17,  
Foreign Office.

The following extract from a report made by Captain E.J. Pryce who was cypher officer at Tobruk when it was captured in June, 1942, is forwarded for information.

- "8. (a) The Typex Machine was smashed to pieces by heavy hammers, Fixed Drum Centres beaten out with water piping. Wiring disconnected and broken into fragments, connections smashed flat. In fact no possible clue could be obtained by the enemy.
- (b) Cipher Officers supervised all destruction with Staff, including Officers S. African 10 men, 88 Area 4 men.
- (c) All definitely destroyed by burning and supervised by Cipher Officers.
- (d) (I II III IV) All pieces of Typex machine were scattered about the hall mixed with switchboard broken pieces and other Signals equipment. There was ample time to make a good job of destruction to all equipment. All internal wiring of drums was removed - connecting joints smashed to pieces. I can with confidence state that there was no possibility of the enemy gaining any information. The whole staff had time to remove to the 6th Bde S. African Division about 7 miles from Palestine caves till the surrender was ordered next morning at 7 a.m. 21st June, 1942."

(Signed) T.J. Wetherall  
for Director of Signals.

6 (B)

COPY

0043/Signals 6.

27th February, 1946.

SECRET,

NHO

~~(B)~~  
~~(S)~~  
P  
V  
R

Dear Mansergh,

Thank you for your D.O. letter No. 0319/12/Sigs 2 dated 9th February, 1946, regarding the whereabouts of Capt. PRYCE.

I am enclosing a questionnaire which I should be grateful if you would send on to Pryce to answer. After such a long interval it is unlikely that he will be able to answer all the questions but the more information he can give us the better able we shall be to check up on some of the statements which have been made during the interrogation of certain German cipher "enthusiasts". Great importance is attached to these statements hence the trouble to which we have put you to locate Pryce.

I wish you to make it quite clear to Pryce that the object of this questionnaire is not in any way to criticise this action at Tobruk, but to obtain as much information as possible as to what cipher equipment it was possible for the Germans to find after the fall of Tobruk. One must assume that they went to unlimited trouble to find any papers or equipment connected with ciphers.

Yours,

(signed) J.H. Williams

Lt. Col. P.E.S. Mansergh,  
Signals 2,  
G.H.Q.  
India.

Background.

1. In June, 1942, Tobruk fell for the second time. 24 hours before the fall this was not anticipated; there is, therefore, a strong probability that, when orders to destroy documents were given, there was little time for the task so that complete destruction of cipher equipment may not have been possible. It is recognized, however, that those responsible did everything that the situation allowed and the object of the questionnaire is to ascertain in detail exactly what was done.
2. The cipher officer of Tobruk garrison was Capt. PRYCE. Their cipher equipment was book only, W Book and a "Z" series RT produced by Mid-East) until some three or four days before the fall when a Typex machine, drums and settings were taken to them by a representative of 8 Army cipher.
3. The South African division withdrew into Tobruk and their cipher office and that of Tobruk probably combined.

Questionnaire.

1. What cipher documents were held prior to issue of Typex?
2. Did Tobruk and South African ciphers combine?
3. If they combined, what was the set up, who became the responsible officer; if not, was any liaison maintained - give details.
4. What was the name of the senior cipher officer (or operator) SA division?
5. What ciphers did SA division hold - especially had they Typex, if so, what drums and associated documents were held?
6. Exactly what Typex equipment was issued to Tobruk Garrison office, when, and in what manner?
  - (a) How many sets of solid drums, BLACK?
  - (b) How many sets solid drums, RED?
  - (c) Any inter-service drums - give details?
  - (d) What drum settings keys?
  - (e) What message setting book/s?
7. Give as vivid and detailed a description as may be possible of the position immediately prior to, and when, the order to destroy documents was given. The following details are important.
  - (a) Was the order received from higher authority or did the cipher have to act on its own initiative? If the latter, on what circumstances was the latter decision to destroy based?
  - (b) At what time of the day was the order received or the decision taken?
  - (c) Where was the cipher office located?



(d) What facilities, if any, existed for the destruction of cipher equipment? Where were they situated with respect to the cipher office?

(e) Did any destruction orders received give a time by which this was to be completed? If so, what length of time did they leave for destruction in theory; did circumstances in fact leave less time for destruction?

8. How was destruction carried out? The greatest possible detail is required. Was it leisurely or hurried? Differentiate between what was reported as done by juniors and what is first hand knowledge.

(a) Give details of what had to be destroyed, giving No. of sets of drums (BLACK and RED separately), No. of copies of documents, etc.

(b) By how many people was destruction undertaken; give the specific tasks allotted to each, if possible, and say whether this was carried out in such a manner that the cipher officer was able to witness or directly supervise what was done.

(c) How were the documents disposed of? If burning was possible, can it be said definitely that their total consumption by fire is quite certain? What measures were taken to ensure this in the case of heavily bound books?

(d) How were Typex drums disposed of,  
(i) Buried, if so, where; together or separately?

(ii) Burned, if so, was it possible to see how far destruction was complete - give details. What was done with the remains?

(iii) Thrown into sea, lake, well?  
If so, together or separately?

(iv) Smashed up, give details. Was the internal wiring removed - broken up - scattered - buried - burned - were the remains dispersed or left together?

In answering the above it is important to say over what area drums, their remains or parts were dispersed.



TOP SECRET 'U' AND  
STRICTLY PERSONAL.

ULTRA

6(B)  
DS/6(B)/1584  
[Handwritten initials]

H.C.S.G., Chesterfield Street.

D.D. 'Y', War Office.

J.H. Williams, Esq., Signals 6, War Office.

Owing to the fact that certain parts of ULTRA/ZIP/SAC/G.35 (e.g. S.R.M. record of HUETTENHAIN/FRICKE conversations re. Typex) were unsuitable for general issue as a Ticom I report, the attached expurgated version, Ticom/I-161 has been produced. It does not contain anything not already fully covered in G.35.

The Americans have not been shown the HUETTENHAIN/FRICKE S.R.M. report given in pps. 1 to 8 of G.35.

[Handwritten signature]

6th November, 1945.

*to be  
Copy/Sent*  
H.C.S.G.  
Signals 6  
D.D.Y.

6(B)12

*[Handwritten signature]*

TOP SECRET 'U'

TICOM/I-161

FURTHER STATEMENTS ON TYPEX BY HUETTENHAIN,  
FRICKE & METTIG

Attached are two statements concerning German work on  
Typex written by HUETTENHAIN and FRICKE of OKW/Chi and METTIG  
of OKH at the request of Capt. GINSBURG in connection with  
information on this subject collected from various interrogations.

For previous statements see in particular TICOM/I-2,  
31,48,66 and 78.

TICOM

No. of Pages: 7

31st October, 1945

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31. Mr. Twinn
32. S.A.C. for Signals 6, War Office
33. S.A.C. for D.D.(Y), War Office.

Before describing the latest attempts to elicit information on Typex from HUETTENHAIN, FRICKE and METTIG, it is necessary to give an account of the statements made on this subject by certain PWs before the end of the war. The only detailed information gained from these was that Typex might possibly have been read through compromise in North Africa in the Summer of 1942. This suspicion, combined with METTIG's assertion that Typex was read in North Africa (see TICOM/I-48), led to the special investigation described in the second part of this report.

#### The North African Story

It was known from Ultra sources that on 14/7/42 a special German mission consisting of Inspektor HARMS and Dr. VOEGHELLE was proceeding to Africa to inspect captured British material, "with a view to obtaining cypher documents and equipment such as keys, encoding machines and the like",

On 21/6/43, at the interrogation of Lt. BODE of NFAK 621, he stated that he had been engaged on translating and emending British machine messages from 1937 until 4/6/1940. The machine was "a sort of typewriter; a man just typed the nonsense stuff, and the English came out on a tape". He said that messages were of all types, army, air force and navy. "We were officially congratulated after the DUNKIRK business; we had told them some things that materially accelerated the campaign". Messages which did not decode were sent to BERLIN for special treatment. BODE stated that the man who knew most about it was a certain Sgt. WAGNER of NFAK 621 who used to work the machine. Later, however, he retracted his statement somewhat, and said that he wasn't so very sure about the machine. As this P/W seemed generally unreliable, no great importance was attributed to his statements at the time.

On 23/8/43, however, the interrogations of Lt. HAUNHORST and Oberlt. POSSEL confirmed some of BODE's less wild statements. HAUNHORST was Div. Intelligence Officer on the staff of 334 Inf. Div, specialising in enemy Artillery Intelligence. During his service in Africa he became very friendly with the officers of NFAK 621 and had a good working knowledge of the organisation and work of the company. He was himself on the distribution of the "BJs" and periodical Wireless Intelligence reports issued by the company and took particular interest in the methods by which the information contained in the BJs was obtained. POSSEL was Funkstellenfuehrer of 10 Pz.A.O.K. Nachr.Regt. He was O.C. of the senior fixed Army Wireless station in Africa, HeFu 7, and as such controlled all other HeFu's in Africa. He was friendly with the officers of NFAK 621 and had the handling of much of their wireless traffic. The statements quoted here were obtained for the most part from HAUNHORST and confirmed independently by POSSEL.

"All high grade traffic was handled by a certain Warrant Officer Wagner. This man had at his disposal one or more British Typex machines captured at TOBRUK, a machine resembling a German enigma machine, and a special type of typewriter which had an adjustable keyboard.



In addition a number of reference books were employed from which the Typex settings were taken. The procedure appears to have been as follows: the message was examined and the indicator looked up in a book. This gave a reference to another reference book where the actual setting of the machine was found. The machine was then set and the message decoded. In certain cases this procedure did not work, and in this case certain information was sent to OKH Berlin who were able to supply the necessary information for the decyphering of the traffic.

The documents used appear to have been of two varieties - captured British cypher documents giving message settings and machine settings, and documents compiled by the "Haupt Chiffrierstelle OKH", which appeared to be reconstructions of message settings and drum settings based on a detailed analysis of high grade traffic during the past 3-4 years. All high-grade traffic was passed to Berlin for detailed examination and such traffic as could not be read by any of the above means was apparently subjected to an analysing machine which, providing some evidence regarding the traffic was available, gave results in many cases.

BJs were distributed to all interested parties locally but might not be passed to Berlin by ordinary wireless channels, the normal route being by courier".

In a later interrogation, HAUNHORST described the machines as having "a central typewriter keyboard flanked on either side by two complicated hollow pots... A paper strip was fed out from inside of the two pots. The machine has five drums". He repeated that "it was from OKH that these funny type-written sheets came. They got some keys out themselves, somehow. I don't know how they did it, and some things they got from OKH or OKW." The bulk of the traffic was either addressed to or signed by 8th Army. The average time-lag between T.O.I. and receipt of the BJs was 12-24 hours. Great secrecy was maintained, documents were always kept locked away and it was almost impossible to obtain permission to visit the office. It was only after the capture of TOBRUK that the Company started to produce high-grade British BJs on any scale.

The interrogation of various officers of NFAK 621 mentioned by HAUNHORST yielded no results at all. HABEL and BREMER refused to give any information, and Sgt. SEVENHECK, at first thought to be Sgt. WAGNER, appeared to know nothing. The identity of WAGNER remained a mystery, and no further information on this subject was discovered during the war. The officers in charge of Typex in TOBRUK were certain that no drums or documents had been left behind.

HUETTENHAIN And FRICKE.

After METTIG's contradictory statements on Typex, it was decided to intensify the interrogations on this subject. For this purpose it was thought necessary to "feed" to the prisoners a modified version of the North African story in order to observe their reactions and gain information in return. At the end of this experiment, I.C. felt convinced that all the PWs were telling the truth.



On 25/9/45, HUETTENHAIN of OKW was told by the interrogating officer that METTIG had made a statement to the effect that an intact Typex machine had been captured at TOBRUK in 1942, along with certain other documents. On the basis of this data, back traffic was decyphered and an analysis into the settings of the machine was carried out in BERLIN. It was then possible through the specialist assistance of OKH In 7/VI to read current Typex traffic on new settings during the North African campaign. Inspektor ZILLMANN, Inspektor HARMS and Dr. VOEGELE were named as having taken part in this work and NFAK 621 was also supposed to have taken part in the picking up of such traffic. METTIG was alleged to have described the Typex machine accurately and to have stated that by the breaking of W.O. Cypher 'W' the German Cryptographic Service knew that there was an intact Typex machine in TOBRUK. ((Note: The reading of this cypher had been ascertained from P/W HERZFELD - see TICOM/I-51)). It was also suggested to P/W that successes over Typex were covered by a special security oath just as successes in breaking the traffic of the Polish underground movement to London were covered.

P/W stated immediately that he considered that METTIG was mistaken in his judgment and added that he was unaware of any such security oath over Typex and was quite certain that no such oath had existed for the Polish traffic. He agreed to consolidate his remarks in a memorandum and asked for permission to discuss that matter with Dr. FRICKE.

On the following day, PWs were told that additional confirmation was forthcoming through a statement by an intelligence officer of the German GS in North Africa. They were then given a short version of the HAUNHORST story.

STATEMENT BY Ps.o.W. REGIERUNGSRAT DR.  
HUETTENHAIN AND SDF 'Z' DR. FRICKE ON  
TYPEX

On the conclusion of the French campaign in 1940, OKW/Chi received a cypher machine, Typex, which had been picked up at DUNKIRK. The wheels belonging to the machine were not found. In size and weight the machine was similar to the German SFMT 52. At the front of the machine was a keyboard, to the left and right a typing frame and at the back of the machine a space for the five (?) cypher wheels. Owing to the absence of the wheels it could not be established how the machine worked; it was presumably operated as an Enigma without 'Steckers', although nothing definite could be stated about the total and succession of the wheels. In addition it would have been necessary to know how many notches were to be found on an individual wheel. This machine was definitely examined by representatives of In/7 and the Waffenamt, and may well have been lent to these departments for a time. Owing to the possibility of clear and cipher printing the machine was taken away from O/Insp. MENZER (who at the time was not a specialist for RSHA and government department work, but was in charge of general development and research) and so rebuilt that it was fitted with three German Enigma wheels for further employment. As far as is known, the machine was then handed over to a Communications Centre of the G.A.F.

With the information at their disposal it was impossible to decypher Typex traffic and such attempts were never made at OKW/Chi.

After the fall of TOBRUK Dr. HARMS (In/7) and Regierungsrat VOEGELE (Luftwaffe) went to Africa to look for captured documents, etc. It is <sup>not</sup> known that these experts went to Africa with the special job of looking for a Typex machine, nor was it ever reported that they found one, indeed according to statements by Dr. HARMS to Dr. HUETTENHAIN, the journey was undertaken in vain. It is however known that from the outbreak of the war to the end of 1941 (?) Typex traffic was held at In/7 and that analysis was undertaken on the subject of indicator groups and letter frequencies. It is not known whether these investigations were carried out continuously over the entire period or whether merely control checks were carried out at odd intervals. Dr. PIETSCH, O/Insp. ZILLMANN, Dr. Werner SCHULZ and Dr. LUZIUS will be accurately informed on these researches. It is known through conversation with these experts that these investigations produced no results.

Ps.o.W. are unaware of special security oaths on analytic methods or successes existing either at OKW/Chi or In/7. Indeed it can be safely assumed that the experts in In/7 were quite open in their exchanges of views with OKW/Chi.

Hence it can be considered unlikely that any experts in In/7 would have concealed any exclusive knowledge on Typex, especially as such knowledge would have been highly significant in the assessment of the German Enigma.

If nevertheless an intact cypher machine had been captured at TOBRUK, and Ps.o.W. had never heard of such an occurrence, it would have been quite impossible for the traffic to have been cracked by personnel from Signals Intelligence in Africa; indeed the most that these latter could undertake would have been more decyphering work on the basis of captured cypher sheets. For cryptographic work it would have been necessary to call in mathematical experts of In/7 from Berlin. These included in the first instance PIETSCH, DOERING, BUGGISCH, MARQUARDT, Werner SCHULZ and LUZIUS. In addition the head of the English Section of In/7, ZILLMANN, would have been informed. During many exchanges of views on cryptographic problems the above-named experts had never spoken about cryptographic successes on Typex. Indeed they always stated that while information on the wheels of Typex was lacking, cryptographic successes were impossible.

It is therefore considered impossible that any cryptographic successes on Typex were achieved in Berlin.

It is also considered unlikely that intact Typex machines were captured in Africa. Even simple decyphering work is considered unlikely, because it would not have been enough to have captured cypher sheets in one's possession but it would also be necessary to have held an intact machine, including wheels.

It is, however, possible that visiting General Staff Officers have been misled by what they saw and might well have been deceived by the presence of German Enigma wheels in an empty captured machine.



Should, however, it turn out that some of the experts named above were in possession of a complete Typex machine and have achieved successes, both these Ps.o.W. would lose their last faith in their fellow beings.

METTIG

After the above statement had been made by HUETTENHAIN and FRICKE, it was decided to apply a similar test to METTIG. On 28/9/45 he was therefore told that according to a statement made by an Intelligence Officer of the German G.S., an intact Typex machine had been captured at TOBRUK in 1942 along with certain other documents. On the basis of this data, back traffic was decyphered and an analysis into the settings of the machine was carried out in Berlin. It was then possible through the specialist assistance of OKH In/7/VI to read current Typex traffic on new settings during the North African campaign. Insp. ZILLMANN, Insp. HARMS and Dr. VOEGELE were named as having taken part in this work and NFAK 621 was also supposed to have taken part in the picking up of such traffic. The BJ's were sent to Berlin by courier. It was also suggested to PW that successes over Typex were covered by a special security oath. PW was asked to comment on these facts and to explain his former contradictory statements.

He stated categorically that Typex had never been broken and agreed to incorporate his remarks in a memorandum.

STATEMENT BY OBSTLT. METTIG ON TYPEX

It is not known how long investigations into Typex traffic have been going on, but during the Western campaign of 1940 such traffic was picked up by intercept units with Army Groups A and B. No success was achieved by the very weak cryptographic sections of these units. Captured machines were all lacking in wheels. During the period Nov. '41 to June '43, when PW was in charge of In/7, continuous investigations were made into Typex traffic. No solution was achieved in Berlin, nor could PW remember any details of any possible partial successes in the analysis of indicator groups, etc. Researches were carried out by the Machine Referat, under Dr. PIETSCH, assisted by Sdf. STEINBERG and probably by VON DENFFER, DOERING, KEHREN and possibly FRICKE. O/Insp. ZILLMANN as head of the English research was continuously in the picture. OKW/Chi were never officially called upon, but exchanges of views took place between the experts Dr. PIETSCH and Dr. HUETTENHAIN. Whereas all cryptographers in In/7 were sworn in by a special security oath, no exclusive oath was administered on the subject of Typex. If any special oath were taken over Typex, it must have been introduced by Dr. PIETSCH himself or by PW's successor. PW remembers that after the capture of TOBRUK Insp. HARMS was sent to TOBRUK to look for captured documents and especially for the Typex machine. PW however remembers quite clearly that the search for this machine proved vain. It was also reported that most captured signals material had been removed by the Air Force.



TOP SECRET 'U'

-7-

TICOM/I-161

The Intercept Coy. in North Africa worked in close touch with the Intelligence Department of the G.S. Duplicates of all decodes were passed to BERLIN to In 7/VI by courier. PW has never known that the Intercept Coy. in North Africa had ever succeeded partially or completely in breaking Typex. Typex was not, to PW's knowledge, solved after his departure from In/7, and he assumes he would have heard of such a significant success even at a later date. Moreover, a success of this nature would have been mentioned in the list of German cryptographic successes that was drawn up for PW prior to his visit to SHAEF with the liaison commission of OKW.

~~DIS (U.K.)~~  
SECRET

Oberst/Lt.  
Lt.

METTIG  
MORGENROTH

M  
N

Room 25  
28 Sep 45  
1551 hrs.  
STERN  
Typ. WARNER

Note:

METTIG: Das hätten wir doch gehört, wenn die englische Maschine gelesen würde.

Ref: C/455

TOP SECRET 11

Capt D. Ginsburg,  
CSDIC(UK),  
c/o Room 327,  
Hotel Victoria.

Dear Major Perin,

With reference to our 'phone conversation today, herewith the results of the Typex investigations. There are two reports, one from METTIG and the other from HÜTTENHAIN and FRICKE. Each report is accompanied by a summary of information that was fed to PW in the hope of producing a reaction, and by the significant parts of any reactions that may have occurred. As far as HÜTTENHAIN and FRICKE are concerned the reactions are very detailed and quite convincing, while METTIG's reaction is short but none the less conclusive.

I have no reason for believing that any of the PW concerned have tried to mislead us on the subject of Typex. Indeed HÜTTENHAIN is so emphatic on this subject that it would appear that no successes at all were achieved. Both HÜTTENHAIN and FRICKE feel that it is quite impossible that any successes over Typex would have been achieved without this fact coming to their ears. METTIG for his part, although his knowledge is very weak and superficial, states quite categorically that no successes were achieved. In order to set people's minds at rest, however, it might pay to interrogate one of the machine experts of Inspektion 7 mentioned in the reports. I would also personally recommend that HAUNHORST be tackled again on this subject, as his evidence appears to be the most important information supporting the theory that the Germans had broken Typex. I believe it would be possible to see HAUNHORST.

Finally I am enclosing a reply to your DS/6(B)1482 of 24 Sep 45. This consists of a statement by HÜTTENHAIN and FRICKE on the various SCHULZE's.

Yours sincerely,

D Ginsburg

Major Perin, GCHQ.

30 Sep 45

Copy to: Duty Officer  
TICOM, GCHQ.



TOP SECRET

INTELLIGENCE FED TO FW REGIERUNGSRAT DR HÜTTENHAIN

DURING INTERROGATION ON TYPEX, 25 SEP 45

FW was interrogated by Captain "MARCHBANK" and Captain "PETERSEN", the latter an officer of the British "Abwehr", who was allegedly carrying out an investigation into German successes on Typex. FW was told that his name had been given to Captain PETERSEN by the RSHA as the most likely man to be able to clarify the Typex position. He was then informed that Obstlt METTIG had made a statement to the effect that an intact Typex machine had been captured at TOBRUK in 1942 along with other certain documents. On the basis of this data, back traffic was deciphered and an analysis into the settings of the machine was carried out in BERLIN. It was then possible through the specialist assistance of OKH In 7/VI to read current Typex traffic on new settings during the North African campaign. Inspector ZILMAN, Inspector HARRIS and Dr VÖGELE were named as having taken part in this work and a signals intercept coy, 621, was also supposed to have taken part in the picking up of such traffic. METTIG was alleged to have described the Typex machine accurately and to have stated that by <sup>the</sup> breaking of War Office cipher W the German Cryptographic Service knew that there was an intact Typex machine in TOBRUK (cf FW HERZFELD our C/447 of 20 Sep 45).

It was also suggested to FW that successes over Typex were covered by a special security oath just as successes in breaking the traffic of the Polish underground movement to LONDON were covered. FW stated immediately that he considered that METTIG was mistaken in his judgment and added that he was unaware of any security oath over Typex and was quite certain that no such oath had existed for the Polish traffic. He agreed to consolidate his remarks in a memoranda and asked for permission to discuss the matter with Dr FRICKE. This was granted.

FURTHER INTELLIGENCE FED TO FWS DR HÜTTENHAIN AND  
DR FRICKE. 26 SEP 45

FWS were told that further to the METTIG version additional confirmation was forthcoming through a statement by an intelligence officer of the German GS in N AFRICA. They were then given a short version of the HAUNHORST story on Typex as outlined in the M.I.8a report of 23/8/43 and published in ZIP/SAC/G.34. FWS agreed to incorporate their comments on this evidence in their memorandum.

Major HÜTTENHAIN (CS) M  
Lt.-Sonderff. FRICKE (CS) M

Note: (Reaction to interrogation)

H. (Oberstleutnant) METTIG hat folgendes ausgesagt:

702 (Extracts)

H. Die 'Typex' sei in TOBRUK erbeutet worden mit komplettem Band, auch mit altem Spruchmaterial. Dieses alte Spruchmaterial sei, weil man die Schlüsselunterlagen erbeutet hätte, mitgenommen worden und nachträglich gelesen worden, und dann sei auf Grund dieser Untersuchungen laufend mitgelesen worden, und zwar seien die Untersuchungen bei der I.N.7 in BERLIN gemacht worden. Der Inspektor HARMS sei da 'runtergefahren' und hätte die Maschine besorgen sollen, mit dem Regierungsrat VÖGELE zusammen. - Jetzt wollten sie (IOs) hören, was ich davon wüsste. Ausserdem hat er gesagt, es seien die (Leute) besonders verpflichtet worden, mit niemandem darüber zu sprechen; die mit 'Typex' arbeiten, hätten unter einer besonderen Verpflichtung gestanden.

F. Da weiss ich nichts davon.

H. Glauben Sie das?

F. Ob ich das glaube, kann ich überhaupt gar nicht sagen.

H. Also ich habe gesagt: "Erstens ist mir nur bekannt, dass eine 'Typex' erbeutet worden ist und zwar in FRANKREICH, ohne Walzen. Zweitens habe ich mit PIETSCH und mit denen doch immer darüber gesprochen, und die haben nie etwas davon gesagt, dass sie dran arbeiten oder gar das lösen. Der Herr Inspektor HARMS ist da unten gewesen und hat die Sprüche, die Handverfahren, bearbeitet und gelöst." Der ist zwar mit dem VÖGELE da 'runtergefahren'; das weiss ich genau, das hat er mir noch gesagt. Der hat sich noch über den VÖGELE so beschwert, dass der VÖGELE überhaupt nichts getan hätte, sondern er wäre mit ein paar Koffern angekommen, leer, so ineinander, und mit den Koffern voll zurückgefahren. Nun soll der Bericht gemacht werden. Ich sollte mit Ihnen darüber sprechen. Ich sagte, ich hätte nie etwas darüber gehört, und wir hätten auch schon darüber gesprochen; Sie wüssten sicher auch nichts davon. (Pause) Dann sagten sie (IOs): "Wie kommt denn METTIG dazu, so etwas zu behaupten?" Ich sagte: "Das ist mir vollständig unverständlich."

F. Ich glaube es nicht. Also nun, nachdem Sie das so sagen - ich muss es mir nochmal ein Weilchen überlegen - aber zunächst mal kommt mir das unglaublich vor. Also einiges daran ist bestimmt ungläubwürdig. Erstens, dass die den 'Typex' gelesen hätten und wir davon nichts erfahren hätten; Sie nichts davon erfahren, ich nichts davon erfahren, ausgeschlossen! Wenn sie jemand gelesen hätte, dann wäre das nicht HARMS gewesen, sondern Leute wie DÖRING, BUGGISCH, MARQUARDT, HÜLLBURG (phon.); PIETSCH auch schon nicht mehr.

H. Nein, aber PIETSCH hätte doch darüber gewusst!

F. Ach, selbstverständlich!

(end of cut)

Note:

F. Ich halte es für möglich, dass <sup>es</sup> bei der IN-7 eine Geheimnisverpflichtung gegeben hat.

703 (Extr.) Tr. Lt. GALEWSKI  
1825 hrs.

F. Bei der Geheimniskrämerei von PIETSCH ist das möglich. PIETSCH neigte zu all <sup>s</sup> solchen Scherzen. Das müsste ich mir einmal genauestens überlegen.

H. Nun wollen wir einmal annehmen, es stimmte. Ist darauf zurückzuführen, immer wieder das Bohren von der IN-7 wegen der 'Enigma'? Der Bericht von PIETSCH bei den Polen(?), dass er noch einmal hingefahren ist - (Pause)

F. Ja, was <sup>g</sup> hat denn das Reichssicherheits-Hauptamt damit zu tun?



Major HÜTTENHAIN  
Lt.-Sonderf. FRICKE

(CS)  
(CS)

M  
M

Room 28  
25 Sep 45

703 (Contd.)

- H. Offenbar sind die auch da drin, das weiss ich nicht. Ich wollte ihn (IO) auch nicht fragen.
- F. Dann hat das Reichssicherheits-Hauptamt etwas gesagt und METTIG etwas gesagt?
- H. Ja, offenbar. Ich soll nun einen Bericht machen.
- F. Also dann geht daraus folgendes hervor: Es hat in TOBRUK eine Maschine gestanden, und die Leute befassen sich weiter damit. Wenn keine da gestanden hätte, würden sie die Sachen sofort verwerfen und würden also sagen: "Interessiert uns nicht weiter, der Mann (METTIG) hat gelogen." - Wann ist denn TOBRUK gewesen? Da bin ich überhaupt noch nicht bei der IN-7 gewesen. Deshalb kann ich das eigentlich auch nicht wissen. Ich bin doch im Winter 1940, also nach dem FRANKREICH-Feldzug, auf dem Wege herunter gewesen; da war ich in MÜNCHEN und sollte hereunter nach TRIPOLIS, und da war TOBRUK belagert um diese Zeit.
- H. Also ROMMEL ging ja an TOBRUK vorbei und ging dann in die EL ALAMEIN-Stellung, und da hätte er montatelang gelegen, und da wurden immer die Sprüche mitgelesen vom Militärattaché bei CHI, das weiss ich. Die wurden plötzlich - da wurde das System abgelöst und da wurde nichts mehr mitgelesen. Das ist '41 gewesen.
- F. Da ist ~~METTIG~~ <sup>METTIG</sup> noch gar nicht da gewesen. METTIG ist gekommen im Herbst, im Winter '41. Also, wenn die in TOBRUK das erbeutet haben, dann muss es '41 gewesen sein, Januar - Februar '41. Im Mai '41 kam ich zur IN-7 und war eigentlich doch immer mit diesen eigentlichen Kernkräften zusammen.

(end of cut)

NB. PWs are muddled over their dates.

Major HÜTTENHAIN (CS) M  
 Lt./Sondf.) FRICKE (CS) M

Room 28  
 25 Sep 45

704. (Extract) Cpt. NEAVE, Tr. BENTHAM, Ch. NEAVE, Typ. WARNER  
 1830 hrs.

- F. (ctd.) Also mir ist immer gesagt worden von all diesen Leuten, PIETSCH usw.: Walzen der 'Typex' ~~X~~ sind nicht bekannt, wir kennen nicht 'mal die Maschine, - und deshalb können wir uns gar nicht daran begeben, die zu lösen - und das war der Mann, der das am ehesten von der IN-7 sagen könnte.
- H. Ich habe mit HARMS, den ich von früher her kenne, vor seiner Reise und nach seiner Reise, ausführlich darüber gesprochen. Der war doch bei SEEBORN(?). HARMS hat überhaupt von der Maschine nichts gesagt. HARMS hat gesagt, er ist da 'runter gefahren und hat sehen wollen, was in TOBRUK erbeutet war, mit VÖGELE zusammen. Sie sind erst in ROM gewesen, und dann sind sie weitergeflogen, und dann sind sie auch nach TOBRUK 'rein, aber da wäre er, HARMS, gleich wieder weg, da wäre nichts mehr gewesen. HARMS ist dann weiter zu der Kompanie, bei der er früher 'mal ein halbes Jahr entziffert hatte und ist aber auch dann nach verhältnismässig kurzer Zeit wieder - der hatte auch da nur so einen Auftrag 'mal zu sehen, was es da unten für Beute gäbe. Er hat mir nicht erzählt, dass sie eine Maschine gefunden hätten.
- F. Wir halten es für vollkommen ausgeschlossen, können wir nur sagen.
- H. Ja. Jetzt die Frage, wie kommt METTIG dazu? Da habe ich ~~da~~ dem (IO) eben gesagt: "Oberstleutnant METTIG hört von so furchtbar vielen Maschinen. Der hört von den deutschen verschiedenen Typen, der hört von amerikanischen Maschinen, von englischen Maschinen usw. und wirft die durcheinander." Wie kann aber das mit der zusätzlichen Verpflichtung sein? Das kann man eigentlich nicht durcheinander werfen. Er (METTIG) hat auch die Maschine beschrieben und die Beschreibung der Maschine stimmt überein mit der 'Typex' ~~X~~. Nun habe ich ja die 'Typex' ~~X~~ auch gesehen, die MENZER(phon.) da stehen hatte, und METTIG ist sicher in der Zeit bei MENZER(phon.) gewesen und hat sich die angesehen. Dann ist er verschiedentlich in seiner Zeit bei uns gewesen, so dass er also davon eine Vorstellung haben kann, wie so eine Maschine aussieht! ~~Das Mitlesen~~ Das Mitlesen, mag das nicht die amerikanische Maschine gewesen sein, ~~die er~~ die 'Hagelin'(phon.)? - was er verwechselte.
- F. Da können wir <sup>schwer</sup> ~~schwer~~ 'was sagen drüber.
- H. Ich meine, wir wollen da nichts drüber sagen, nur dass wir von uns aus 'mal sagen: wie kommt der Mann dazu, so 'was zu sagen.
- F. Also offenbar ist die Vorgeschichte richtig. Das kann ja auch sein, dass die 'runtergeschickt worden sind, um eine 'Typex' ~~X~~ zu suchen.
- H. Das kann sein! Überhaupt die Beute da unten sicher zu stellen in TOBRUK, und damit den Auftrag die 'Typex', weil das in einem Spruch(?) gestanden haben kann.
- F. Aber wissen Sie, daraus geht hervor, dass PIETSCH auch nicht da ist.
- H. Nein, es ist niemand da. Es ist DÖRING nicht da, es ist BUGGISCH nicht da, es ist kein Mensch da. Deshalb sind sie auf ~~nicht~~ <sup>uns(?)</sup> gekommen, was haben die denn damit zu tun.

(end of cut)



Major	HÜTTENHAIN	(CS)	M	Room 28
Lt.-Sonderführ.	FRICKE	(CS)	M	25 Sep 45

705:-  
1835 hrs

Typ. KENDON Tr. NICHOLS

H. Der HARMS ist zweimal in AFRIKA gewesen, einmal monatelang, vielleicht ein halbes Jahr. Das war nachdem SEEBORN (phon) gefasst war. Da wurden auch die ganzen Entzifferer mitgeschleppt(?), und da war niemand mehr unten, der irgendwelche Ahnung hatte. Da sollte HARMS 'runter, um da unten das Gelände zu sondern, wie viele Menschen man braucht usw. Dann ist er aber gleich unten geblieben und nachher ist er noch 'mal mitgefahren mit dem VÖGELE; die beiden alleine. Da waren sie in ungefähr 14 Tagen wieder da. Als er wieder kam hat er mir gesagt: "Ich wollte mich auch nicht länger aufhalten, es ist für einen alten Mann doch nichts mehr da unten, da wird es mir zu heiss", und so. Er war ja schon damals, als er sich freiwillig da 'runter meldete, über 50 Jahre alt. (Pause) Will METTIG protzen, dass er sagt, wir haben auch die gefassen? Da muss er sich aber doch im klaren sein, dass solch einer Frage nachgegangen wird, oder glaubt er das tatsächlich?. Also wenn er nicht prahlen woll, was ich mir auch bei ihm denken könnte, nach dem Motto 'wer angibt hat mehr vom Leben', und wo er doch wenn möglich hier als Oberst noch eingestellt werden will - wenn das nicht der Fall ist, dann ist eine glatte Durcheinanderwerfung von allen möglichen Sachen, die er irgendwie so 'mal aufgeschnappt hat. Wenn der doch nur im Prinzip sich im klaren wäre, wie schwierig das ist ohne - und da fragten sie (IO's) auch, ob das gelöst oder eingestellt wird. Da habe ich gesagt: "Wenn das bei CHI zu machen wäre, dann hätte ich zu entscheiden, denn solche Sachen wären zu mir gekommen, und dann hätte ich entschieden; wenn wir keine Walzen haben, fangen wir gar nicht an. Bei der IN-7, soweit ich das übersehe, wird das letzte Wort da Dr. PIETSCH und DÖHRING (phon) und diese Leute zu sprechen (gehabt) haben." Es ist ja so, dass man jetzt erst versteht, warum der (IO) immer wieder mit der 'Typex' anfängt. Die 'Typex', die wir bei CHI hatten, also ohne Walzen, ist in DÜNKIRCHEN erbeutet worden.

F. Von der wusste ich ja auch schon lange, bevor ich bei CHI war. Bei CHI habe ich mich dafür gar nicht mehr interessiert. Ich halte das für gelogen. Wir wollen 'mal überlegen: was könnten die gemacht haben, so dass es dann, wenn ein solches Verbot bestanden hätte, PIETSCH für nicht der Rede wert gehalten hätte, etwas darüber zu sagen?

H. Also bei PIETSCH könnte ich mir vorstellen, wenn er verpflichtet sei, darüber nicht zu sprechen, auch nicht mit den anderen Mitarbeitern, dann tut er das nicht. Aber in den Besprechungen des Ausschusses, der genau vor einem Jahr tagte - da ist doch gerade in den ersten Sitzungen gerade die 'Enigma' durchgesprochen worden und da wurde über die Lösungsmöglichkeiten der K-Maschine gesprochen, und da wurde doch auch die Sache so hingestellt: ja, wenn man die Walzen hat, dann kan man 'was machen; aber ohne Walzenkenntnis ist der einzelne Spruch, oder eine Summe von Sprüchen, nicht zu lösen. Meinen Sie denn, dass niemand, dass PIETSCH nicht, und DÖHRING nicht, nicht 'mal gesagt hätte: "Wir haben doch eine etwas komplizierte Maschine als die K-Maschine, nämlich die 'Typex' mit Erfolg bearbeitet." Da hätte doch die Verpflichtung nicht mehr so zu bestehen brauchen, denn sie existierte doch nicht mehr. AFRIKA war doch erledigt. (end of cut)

736:-  
1843 hrs

Tr. BRENT

F. Wenn die Leute uns fragen würden, genau wie viele Kerben usw. die 'Typex' hat, dann würden wir sofort an Hand des Standes, was die anderen wussten und was wir wissen, sagen können, ob ~~das~~ es nach unseren Kenntnissen möglich ist, das Ding zu entziffern oder nicht.

H. Nehmen wir einmal an, sie hat, genau wie unsere 'Enigma', eine Kerbe. Da waren da, soweit ich mich entsinnen kann, fünf Walzen drin. Drei Walzen bewegten sich genau wie unsere 'Enigma', und zwei Walzen waren einstellbar, und zwar waren die beiden einstellbaren Walzen die beiden vorderen, die bei der 'Enigma' rechts sassen, so dass man also 676 verschiedene Eingangswalzen machen konnte, d.h., also es wäre die 676fache Arbeit der K-Maschine gewesen. Und haben die natürlich den Sprechschlüssel klar gegeben, oder in einem



Major HÜTTENHAIN (CS) M Room 28  
Lt. Sonderf. FRICKE (CS) M 25 Sep 45

736 ct.:-

- H. (ct.) simplen System, das braucht man nicht zu entziffern, sondern dann entschlüsselt man.
- F. So weit ging es ja nun nicht, als dass die nicht 'mal gesagt hätten, so sieht eine 'Typex' aus.
- H. Und warum sollen sie nicht einfach sagen: "Wir haben einen Satz erbeutet!""? Da hätten sie gesagt, zu einem Satz gehören zehn Walzen. In ~~der~~ jeder Walze sind eine oder zwei oder drei Kerben drin. Nichts davon ist doch gesagt worden.
- F. Wenn da nichts gesagt (wurde), dann könnte man sich nur denken, dass das ein einmaliger Fall gewesen ist, ..... klar gewesen, ~~erlässt~~ lässt sich weiter damit nichts machen. Es hat keine Konsequenzen für weitere Unternehmungen. Also in dem ENGLAND-Referat ist vom Herbst 1942 an die 'Typex' nicht entziffert worden. Ich hatte im ENGLAND-Referat einen guten Freund, das war der Werner SCHULZ (phon), und mit dem habe ich öfter gesprochen. Der hätte mir bestimmt gesagt, die 'Typex' lesen wir.
- H. Es hätte ja sein können, dass bei der IN-7, die nichts davon gewusst hätten, und dass das mathematische Referat die Sachen gemacht hätte.
- F. Da war ich doch noch vorher dabei. Das ist ausgeschlossen.
- H. Der HARMS hat mir auch immer vom englischen Referat erzählt, dass da so gut wie nichts gemacht worden ist. Wer war denn der Leiter (vom ENGLAND-Referat)? War das der ZILLMANN?
- F. Ja.
- H. Über den hat der HARMS auch furchtbar geschimpft. Der sässe immer über seiner Arbeit, liesse keinen anderen 'reingucken, lernte keinen an, sagte keinem etwas.
- F. Ja, der konnte es ja auch nicht.
- H. Ich stand mit dem HARMS so gut, dass wir überhaupt keine Geheimnisse voneinander hatten. Wir haben über Gott und die Welt gesprochen und kein Wort davon. Es ist ganz ausgeschlossen. - Wir werden dann so schreiben, dass unseres Wissens nach die Maschine nicht in TOBRUK, sondern in DÜNKIRCHEN ohne Walzen -(int) Die Maschine hat bei CHI lange gestanden und ist nachher vielleicht benutzt worden - auf einer Dienststelle - ist mit deutschen Walzen versehen worden, um den Verkehr zu erleichtern. Ich meine, es war eine Dienststelle in POTSDAM, es kann sogar eine von der Luft gewesen sein, der VÖGELE.
- F. Der schmeisst da irgendetwas durcheinander.

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Lt. So. Füh. FRICKE (CS) M 25 Sep 45

737 ct.:-

F. ~~De stimmt einiges nicht.~~

H. ~~Nein, da ist einiges nicht richtig.~~

F. Von der IN-7 ist nur HARMS genannt?

H. Und ZILLMANN.

F. Gerade die beiden Nachtwächter! (laughter)

H. Also HARMS 'runter (to TOBRUK) und ZILLMANN in BERLIN. HARMS wäre 'runtergefahren, um die Maschine sicherzustellen und dann wäre sie nach BERLIN (gebracht worden) und sei dort bearbeitet worden und es sei also eine Sonderverpflichtung ausgesprochen worden und da ist der Name ZILLMANN gefallen. Ich habe gesagt: "Dass der HARMS an der Untersuchung nicht beteiligt gewesen ist, das möchte ich aus folgenden Gründen sagen: erstens hat er mir nichts gesagt und zweitens kenne ich ihn so (gut), dass der HARMS nicht in der Lage ist, eine solche Untersuchung durchzuführen; und den ZILLMANN kenne ich zwar nicht, da möchte ich aber auch sagen aus Äusserungen seiner Kenntnisse von anderen, dass der auch nicht in der Lage wäre, das zu tun!"

F. Ja. (Pause) So ein Karl! Was quatscht sich der zusammen, das ist ja doch entsetzlich! Alles, was er nur so halb weiss, irgend 'was gehört, das schmeisst er wild durcheinander; der weiss es in der Bedeutung gar nicht gegeneinander abzuwiegen. (Pause) Ich glaube, das ist eine Kardinalfrage hier. (end of cut)

738/I F. Die (IO's) sagten, NETTIG hätte die Maschine beschrieben und die Beschreibung  
(Extr.) sei richtig gewesen?

1955 hrs

H. Ja. Wir sollten auch schreiben, was wir noch in Erinnerung von der Maschine hätten. Da kann ich nicht mehr viel davon schreiben. Da wusste ich nur, dass sie ungefähr die Grösse gehabt hätte wie die .....50, dass rechts und links die beiden Schreibsätze gewesen seien, dass sie elektrisch betrieben wurde, dass in der Mitte hinten der Platz für die Walzen war.

F. Ich habe die Maschine 'mal im Waffenamt(?) gesehen, das muss im Herbst '42 gewesen sein.

(end of cut)



Major HÜTTENHAIN  
Lt.-Sonderf. FRICKE

(CS)  
(CS)

M  
M

739 (Contd.)

F. und da hat BUGGISCH das allein weiter gemacht, aber nicht lange mehr, vielleicht noch vier Wochen. (Pause) Also, bis dahin sind die nicht bei PIETSCH gewesen, und ich weiss sogar, dass PIETSCH denen gegenüber ursprünglich eine nicht besonders gute Meinung hatte. Ich weiss, in diesem Referat hatten ja auch PIETSCH und Genossen die 'C-36' untersucht, und da hörten sie dann, dass auch DÖRING und die etwas gemacht hatten. Da wurde noch darüber gesprochen, und wurde also festgestellt, da haben wir weit mehr bereits als DÖRING und BUGGISCH daran gefunden, also, das ist nichts. Erst im Laufe der Zeit - ich weiss, dass sich dann DÖRING und BUGGISCH und PIETSCH öfter unterhalten haben - änderte PIETSCH seine Meinung. Aber das hat lange gedauert.

H. Also, die sind während des FRANKREICH-Feldzuges irgendwo im Westen gewesen und hatten nichts zu tun und haben sich dann aus feilen Stücken an die 'C-36' gesetzt, und das Ergebnis haben sie dann vorgetragen in BERLIN(?), das weiss ich. Die Kerle machten alle drei doch einen - wir hätten die mit Kussband genommen, und die wollten auch gerne, denn sie sahen, dass bei uns kein Kommissbetrieb war. Ich weiss noch, sie haben ..... gesprochen, dass BUGGISCH bei WEGENER(phon.) provoziert hatte, den kannte ich auch ganz gut.

(end of cut)

740

Tr. WELLMAN

(1915 hrs.)

H. Also es wäre folgendes möglich, dass eine Sonderverpflichtung ausgesprochen worden ist, und die Kerle haben so dicht gehalten, bis zum  $\beta$  Zusammenbruch, dass nicht ein Wort darüber gefallen ist. Also, wenn nicht gerade noch genau jetzt vor einem Jahr diese Besprechungen - es mag sein, dass es heute ein Jahr auf den Tag ist, dass über die 'Enigma' gesprochen wurde doch immer in den Sitzungen, über alle Maschinen.

F. Also, ich weiss selbst, dass PIETSCH gesagt hat - und da ist DÖRING dabei gewesen - : "Walzen haben wir nicht."

H. Haben wir nicht, und da können wir nichts machen. Ja, das hat er mir auch ein paar mal gesagt. Wenn der PIETSCH kam, haben wir doch über alle Probleme so mal gesprochen.

F. Ich weiss ja. Von DENFER(phon.) war ja ein ganz besonders fanatischer Mann in dieser Hinsicht. Mit von DENFER(phon.) habe ich öfters darüber gesprochen. Er sagte: "Ist das möglich, dass in DEUTSCHLAND nicht ein einziges Mal Walzen erbeutet werden?" Man muss immerhin bedenken, dass von DENFER(phon.) viel mehr Einfluss hatte als DÖRING und als BUGGISCH und bestimmt  $\gamma$  davon was gewusst hätte.

H. Der METTIG hat - also, wenn Sie sagen, es hat die Verpflichtungen da bei 'IN-7' gegeben - eine ausgesprochene Verpflichtung auf die 'Typex' angewendet, vielleicht im guten Glauben. Er hat die Maschine 'Typex' mit der anderen Maschine verwechselt. (Pause) Ist denn die War Office Cipher überhaupt gelesen worden?

F. Wie soll das denn gewesen sein? Eine Funktafel?

H. Nein, das wird doch wahrscheinlich ein Doppelwürfel(?) oder sowas gewesen sein. Also das schien mir auch schon komisch. Davon habe ich nie etwas gehört; aber ich habe eben (in interrogation) nichts gesagt. Denn ich weiss das nicht. Ich weiss nicht, wie die Bezeichnungen hiessen. (Whispering) War Office Cipher ist bestimmt eine ganz geheime - eine bessere als eine Funktafel. (Pause) Ist das wohl auch darauf zurückzuführen, weil Sie neulich sagten, dass einer in seinem Schrank eine elektrische Chiffrier-Maschine - aber das soll doch die amerikanische gewesen sein.

F. Kraut und Rüben. Ich meine, da zweifelt man ja selber an seinem Verstand.

H. Ja, sicher.

F. Ich meine <sup>wenn</sup> ~~was~~ so ein Mann wie DÖRING oder BUGGISCH da wäre -

H. Ich kann mir auch nicht denken; auch mit dem BUGGISCH(phon.), was habe ich da auch nachher noch, wie der auch noch bei CHI war, über alles mögliche gesprochen; und dass da kein Mensch - Der VÖGELE, kennen Sie den?



Major HÜTTENHAIN  
Lt. -Sonderf. FRICKE

(CS) M  
(CS) M

740 (Contd.)

- F. Nur dem Namen nach. Wir wissen jedenfalls nichts von. Sie halten es auch für unwahrscheinlich?
- H. Ja.
- F. Wissen Sie, es wäre hier noch folgendes wesentlich zu wissen: ob der behauptet, dass sie laufend anschliessend mitgelesen haben?
- H. Ja.
- F. Bis in die neueste Zeit oder wie?
- H. Nein, bis in die neueste, also -
- F. Also ich kann folgendes sagen, dass mir gesagt worden ist in der 'IN-7' von den Bearbeitern, die am ehesten Kenntnis über die Verfahren gehabt hätten, dass es ganz aussichtslos sei, Zeit(?)sprüche in Angriff zu nehmen, und das hätten die nie gesagt, jedenfalls uns nicht, wenn - da hätte doch irgendeiner mal was - da hätte ich doch irgendwann was davon merken müssen.

(end of cut)

741 (Extract) Tr. HENLEY

20 hrs.

- F. Durch so einen dusseligen Bruder (METTIG) kommen wir noch in den Verdacht, irgend etwas zu verheimlichen.
- H. Jawohl.
- F. Denn die Leute überlegen sich ja doch nun -

(end of cut)

743/I

Ct. STERN Tr. MANN

1935 hrs.

- H. Also man muss doch annehmen, dass die Engländer den Spruchschlüssel so gemacht haben, dass man am Spruchschlüssel nicht erkennen kann, welche Walzen drin sind, und dass man die Einstellung einfach ablesen kann. Die geben doch nicht klar. Denn sind also pro Tag 252 Versuche zu machen, also d.h. man muss 252 K-Maschinen lösen, d.h. mit anderen Worten, man hat  $10 \times 9 = 90$  Eingangswalzen, und für jede der Eingangswalzen muss man ein für allemal vorbereiten, was man bei der K-Maschine ein für allemal vorbereiten muss, wenn man so ein Wort durchzieht. Das sind ja enorme Arbeiten, und demüssten Sie etwas davon wissen; das lässt sich nicht verheimlichen.
- F. Nein. (Pause)
- H. Wir sollten auch die Vermutungen da 'reinschreiben, was eventuell METTIG gemeint haben könnte oder was er alles durcheinanderwürfe.
- F. Da kann man ja sagen, wenn er behauptet, eine Maschine gesehen zu haben, dann kann er die Maschine mit deutschen eingesetzten Walzen gesehen haben.
- H. Wenn er von einem Maschinenverkehr da unten gesprochen hat - (int.)
- F. Das könnte sein; da können wir nichts - (int.)
- H. Ja, ich weiss; es könnte ja sein, dass damit die amerikanische Maschine gemeint ist, und mit der Geheimhaltung - also, mir ist so etwas überhaupt nicht bekannt; eine Sondergeheimhaltung hat es bei uns, bei CHI, nicht gegeben, das weiss ich genau. Das ist direkt etwas Falsches, dass er sagt, die Polen sind auch so im Sonderschutz.
- F. Am besten kann man das ja damit widerlegen: der Hauptbearbeiter hat darüber vor der gesamten CHI-Abteilung vorgetragen.
- H. Es kann sein, dass METTIG die Sache durcheinanderwirft; dass der Verteiler der polnischen ..... ein viel kleinerer gewesen ist als bei den üblichen.

(end of cut)

Major HÜTTENHAIN  
Lt.-Sonderf. FRICKE

(CS)  
(CS)

M  
M

Note:

F. (re homework) Ich halte es für zweckmässig,

742/I Tr. HENLEY  
1940 hrs.

- F. auch solche kleinen Äusserungen von BRAUN, die zur Charakterisierung der Lage --
- H. Wir wissen ja nicht, ob er das deshalb tut. Da reisst man womöglich den BRAUN noch da 'rein.
- F. Eins ist klar: METTIG gibt an, das ist ja nun vollkommen klar.
- H. Wir könnten es vielleicht so in allgemeinen Sätzen einmal sagen, dass die Situation kurz vor dem Zusammenbruch die gewesen wäre, dass man in DEUTSCHLAND in führenden Kreisen geglaubt hätte, wir könnten unsere Situation retten, indem wir mit den Engländern und Amerikanern gegen die Russen gingen, und dass aus diesem Grunde man sich das Gebaren mancher Offiziere erklären könnte, bei den Engländern hier einen guten Eindruck zu machen, dass sie einen würdigen Partner fänden. Aber ich weiss nicht -- das ist alles so --
- F. Ja, eine pflaumenweiche Geschichte. Nein, nein, also das wissen die ja.
- H. Womöglich hat er da geschrieben, dass er die Sache gesteuert hat.
- F. Sie können Gift darauf nehmen, der befolgt den BRAUNschen / Ratschlag: angeben, protzen.

(end of cut)

744/II Tr. GALEWSKI  
2010 hrs.

- F. PIETSCH war ein grosser Geheimniskrämer. Aber wenn da eine reguläre Entzifferung oder eine gute Kenntnis der 'Typex' Vorgelegen hätte, das hätte ich(?) gewusst. Ich kann mir vorstellen, dass die da irgendwas geknobelt haben, w/ o ich nichts darum erfahren habe, aber dann sind es bestimmt Dinge gewesen ohne irgendwelche Tragweite.

(end of cut)

Note:

- F. Wenn einer etwas darüber

743/V  
2015 hrs.

- F. wüsste, dann wäre es PIETSCH.
- H. Dann wird er sagen: "Der war ja gar nicht da, der war ja mit MANKWIG(phon.)"
- F. Das ist ja auch unmöglich, der ~~ist~~ ist ja erst im Herbst 1942 weggegangen.
- H. Und wann ist METTIG denn zu 'IN-7' gekommen?
- F. Im Herbst '41.

(end of cut)

745/I (Extr.) Tr. MANN  
2020 hrs.

- F. Ich habe einmal mit BUGGISCH gesprochen über die Möglichkeit: "Wie mögen denn die Walzen aussehen?" und da kam auch heraus: "Wir wissen es nicht." Aber BUGGISCH sagte zu mir: "Ich glaube sicher, dass die mehrere Kerben da drin haben, nicht eine."

(end of cut)

Note:

- F. Ich fasse mich immer wieder an den Kopf, dass die(Allies)

745/II

- F. den PIETSCH und die Leute nicht haben. Dass die(Allies) DÖRING und BUGGISCH nicht haben, das wundert mich nicht weiter. BUGGISCH ist so intelligent, der sagt sich; "Ich gehe irgendwie in die Landwirtschaft" und es ist möglich, dass er auch versucht hat, nach Hause zu seiner Frau zu kommen. Die findet man nicht so leicht. Aber PIETSCH und Genossen, die sind doch dort(?) unten(?) gewesen, die sind doch nicht zum Russen übergelaufen. Was ist aus HARMS geworden?
- H. Der HARMS kam nachher zu CHI.
- F. Und was ist da mit ihm geworden?
- H. Der ist mit dem FAUCK(phon.)-Laden nach dem Süden.

28 SEP 1945

(end of cut)



SECRET (U.K.)  
SECRET

Major HÜTTENHAIN (CS) M  
Lt.S/F FRICKE (CS) M

Room 28  
26 Sep 45  
0900 hrs  
Tr. NICHOLS  
Ct. STERN  
Ch. HELLMANN  
Typ. KENDON

H. Im Sommer '40 nach DÜNKRICHEN

631/3

H. Hatten wir in CHI eine - (int.) (end of cut)

631/4:-

H. und die Maschine sah also so und so aus.

F. Also es kommt eine kurze Beschreibung der Maschine?

H. Ja. Dann, was mit der Maschine geschehen ist, das kommt direkt dahinter. Die Maschine wurde mit deutschen Walzen versehen und einer Dienststelle der Luftwaffe mit einem Fragezeichen, in POTSDAM mit einem Fragezeichen, ausgehändigt. Ich glaube, das kann ich so schreiben, sogar ohne Fragezeichen, denn ich glaube mich ganz genau zu entsinnen.

F. Das wurde gemacht, weil es eine schreibende Maschine -

H. Eine schreibende Maschine, und ich meine sogar, das wäre so irgendeiner mit SCHULZE gewesen, mit ENGLAND.

F. Wie konnten Sie denn mit einer anderen ~~anderen~~ Maschine zusammen arbeiten, wo ..... Walzen drin sind?

H. Das hat MENTZER (phon) machen lassen. Da wurde vorne die Eingangswalze einfach so überbrückt.

F. Wer hat denn ausser CHI diese Maschine noch irgend wann 'mal da gehabt?

H. Ich glaube niemand.

F. Das Waffenamt weiss ich genau.

H. Vom Waffenamt wird sie zu uns gekommen sein.

F. Das stimmt nicht, ich habe diese Maschine im Herbst 1942 (end of cut)

so:-

F. im Waffenamt gesehen, bei PUPP (phon) im Zimmer. Da sind Sie ~~sogar~~ dabei gewesen und BUGNISCH (phon). Da habe ich zum ersten Male diese Maschine gesehen, und zwar war das, als wir bei KAMM (phon) wegen des Gerätes 39 waren. Da gingen wir anschliessend, nach einer lebhaften Sitzung bei KAMM (phon) in PUPPs (phon) Zimmer und unterhielten uns über alles mögliche. Das kann im Herbst oder Winter 1942 gewesen sein.

H. Sollten Sie dann evtl. die Maschine dazu umgebaut haben?

F. Also, wenn ich gefragt werden würde, wann ich zum ersten Male die Maschine gesehen habe, würde ich sagen, ich habe sie im Heeres-Waffenamt gesehen. Es war ein grosser, leerer Kasten, links und rechts, daran waren so Schalterwerke wie bei einer Schreibmaschine - (int.)

H. Ich stelle mir das so vor - wenn das der Grundriss des Kastens ist - (demonstr.) dann war hier und hier so ein Ding und da schlugen die Hebel so in der Mitte so, sagen wir 'mal, von dieser Seite so, und hier lief ein Band. Da schlugen sie drauf. Hier wäre die Tastatur gewesen und hier hinten - (int.)

F. Nun sagen Sie, es ist der Luftwaffe zur Verfügung gestellt worden. Wie kann sie dann METTIG bei MENTZER (phon) gesehen haben?



Major HÜTTENHAIN (CS) M  
Lt.S/F FRICKE (CS) M

Room 28  
26 Sep 45

746 ct.:-

- H. Die hat monatelang bei CHI gestanden, bei uns(?) im Zimmer.
- F. 1940 - 1941?
- H. Das weiss ich nicht sicher, aber das schätze ich, ja.
- F. Also jedenfalls zuletzt nicht mehr? Seit zwei Jahren nicht mehr?
- H. Bestimmt nicht mehr. Hier hinten waren die Walzen (demonstr.) und das war so angeordnet, hier war die Eingangsgeschichte, hier die zwei Walzen, die drehten sich. Da sah man hier hinten ein paar Hebel und hier war Platz für zwei Walzen, die eingestellt werden konnten.
- F. Ich habe in Erinnerung, als hätte ich das Ding 1942 im Waffenamt gesehen. Ich weiss noch ganz genau, wie wir da im Zimmer waren.
- H. Na ja, das ist ja gut, dann können wir das ja schreiben. Ich weiss aber genau, dass sie einer Dienststelle zur Verfügung gestellt war. Wer die Maschine dazu umgebaut hat, das weiss ich nicht. Das könnte das Waffenamt gewesen sein. Ich weiss noch genau, dass MENTZER (phon) nachher sagte, dass die Maschine in Betrieb sei und dass die Leute sehr zufrieden damit wären. (Pause) (end of cut)

Major HÜTTENHAIN (CS) M  
Lt.S./F.FRICKE (CS) M

Room 28  
26 Sep 45

747:-  
0908 hrs

Typ. KENDON

- H. Drei (Chiffrierwalzen) wurden angetrieben.
- F. Man könnte noch so sagen: folgendes konnte an der Maschine erkannt werden -(int)
- H. Ich möchte nicht mehr einen Eid schwören, dass drei Walzen antreibbar waren und zwei einstellbar. Es konnten auch vier antreibbar sein, aber ich meine drei.
- F. Da sagen wir also, einige waren antreibbar. In der hinteren Hälfte der Maschine (war) der Raum für die Chiffrierwalzen.
- H. Erkannt wurde - (writing) folgendes: die Maschine arbeitet prinzipiell gleich der 'Enigma-K'.
- F. 'K' würde ich nicht sagen.
- H. Sie arbeitet prinzipiell gleich einer steckerlosen 'Enigma'. Dann muss man das genauer erklären, was nicht klar war. Es ist nicht bekannt gewesen, wie viele Walzen überhaupt zur Maschine gehörten, ferner nicht, ob die Walzen mit Kerben versehen waren - (int.)
- H. Mit wie vielen Kerben? Dass sie mit Kerben versehen waren, das muss ja sein.  
(end of cut)

635:-  
0913 hrs

- F. Es ist nicht bekannt gewesen mit wie vielen Kerben, so dass damit über den Ablauf der Walzen nichts ausgesagt werden konnte. Ist daran noch etwas im Zweifel?
- H. War an den Walzen nicht hinten noch irgend etwas steckbares dran oder dass da eventuell ein Steckerbrett dabei war? Ich würde schreiben - (int.)
- A. Soviel ich weiss, ist da kein Steckerbrett dran gewesen.
- F. Nein, nach deutscher Art nicht. Aber es fehlte doch alles mögliche daran.
- H. Wenn man ~~man~~<sup>nun</sup> einfach schreibt, die Maschine arbeitete nach dem deutschen .....
- F. 'Die Maschine arbeitete', das wissen wir gar nicht. Nach dem was man da sah, musste man schliessen, dass die Maschine arbeitete. (end of out)

750:-  
0928 hrs

- F. Bei der IN-7 gab es Geheimtextmaterial.
- H. Von wo? Von FRANKREICH?
- F. Das weiss ich nicht. Mir ist bekannt, dass bei der IN-7 am Anfang des Krieges, also nach dem FRANKREICH-Feldzug usw. wohl, Spruchverkehre von der 'Typex' aufgenommen worden sind, und diese Sprüche untersucht worden sind nach Gesichtspunkten, die mir nicht genau bekannt sind. Es sind, soviel ich darüber sagen kann, Untersuchungen gewesen: kann man etwas über die Kenngruppe aussagen, wie sehen die Geheimtexte aus? Statistische Untersuchungen sind daran gemacht worden. Es ist uns bekannt, dass diese Untersuchungen ergebnislos ausgelaufen sind, so dass die Versuche eingestellt wurden.
- H. Sie sind auch unseres Wissens nie wieder aufgenommen worden. Ich habe verschiedentlich mit PIETSCH darüber gesprochen.
- F. Das kommt nachher sowieso bei der TOBRUKer Angelegenheit usw..
- H. Über die TOBRUKer Angelegenheit könnten wir sagen: es ist uns nicht bekannt, dass bei TOBRUK überhaupt eine 'Typex' gefunden wurde, geschweige denn eine 'Typex' mit Walzen!  
(end of cut)

Major HÜTENHAIN (CS) M Room 28  
Lt S/F FRICKE (CS) M 26 Sep 45

639 (Extr.): -  
0953 hrs

- H. (Re-reading their home-work) Nach diesen Feststellungen wäre es unmöglich gewesen, Geheimtexte, die in der 'Typex' verschlüsselt waren, zu entziffern. Bei CHI sind solche Versuche auch nicht unternommen worden.
- F. Wollen wir diesen Satz ' bei CHI sind solche Versuche nicht unternommen worden' nicht überhaupt streichen?
- H. Nein, das haben Sie (?) gesagt sollen wir schreiben. Das wollen wir ruhig schreiben.
- F. Na, schön. (Pause) Jetzt muss eben etwas kommen über diese - (int.)
- H. Geheim -
- F. Ja. Das kann ich ja nun nicht sagen. Gab es das bei CHI, dass irgendwelche Ergebnisse so innerhalb von CHI nicht - ?
- H. Darüber ist mir nichts bekannt. Darüber habe ich nicht einmal eine Andeutung oder einen Verdacht oder eine Vermutung gehabt, dass es das gibt.
- F. Man könnte so sagen -
- H. 'Es ist uns nicht bekannt', können wir ja ruhig schreiben, (end of cut)

640:- H. 'dass innerhalb von CHI besondere Geheimhaltungsverpflichtungen für bestimmte  
0958 hrs Lösungsmethoden und Entzifferungsergebnisse ausgesprochen worden wären.'  
(Extr.)

(end of cut)

28 SEP 1945  
H. Fricker



TOP SECRET

INTELLIGENCE FWD TO OBSTLT METTIG DURING  
INTERROGATION ON 28 SEP 45 ON TYPEX

PW was informed that according to a statement made by an Intelligence Officer of the German GS, an intact Typex machine had been captured at TOBRUK in 1942 along with other certain documents. On the basis of this data, back traffic was deciphered and an analysis into the settings of the machine was carried out in BERLIN. It was then possible through the specialist assistance of OHH In 7/VI to read current Typex traffic on new settings during the North African campaign. Inspector ZILMAN, Inspector HANIS and Dr VÖGELE were named as having taken part in this work and a signals intercept coy, 621, was also supposed to have taken part in the picking up of such traffic. The BJs were sent to BERLIN by courier.

It was also suggested to PW that successes over Typex were covered by a special security oath. PW was asked to comment on these facts and to explain his own former contradictory statements.

He stated categorically that Typex had never been broken and agreed to incorporate his remarks in a memorandum.

Copy.

6 (B) 15

The War Office,  
Whitehall,  
S.W.1.

0043/Sigs 6

Secret  
& Personal

23rd October, 1945.

Dear Copeland,

1. I am very anxious to obtain certain information regarding the destruction of Type X equipment at TOBRUK in June, 1942 just before the fall of the Garrison there.

A Capt. E.J. PRYCE was one of the cipher officers concerned. He was taken prisoner on 21st June, 1942 and released on 27th April 1945 - his P.O.W. number was 1438. After release he returned to UK and subsequently emplaned for India in June of this year.

Apparently, PRYCE was on the Indian Army Reserve of officers and attached to the Intelligence Corps. He was never transferred to R. Sigs. Originally, he arrived in Middle East ex India towards the end of 1942 as Cipher Officer of 10 Indian Division.

I should be very grateful if you would attempt to trace this officer. If you are successful I will forward a questionnaire for you to get him to complete.

2. You may be interested in the attached example of what appears to be bad transmission.

Yours

(signed) J.H.W.

Lt. Col. F. Copeland, R. Sigs.  
GSI(f), GHQ India.

(copy to: Lt Col. Clark. C.P.B.

Copy sent H.C.S.G.  
D.S.D. 10.

25/10.

6 (B) 14

TOP SECRET

TICOM/D-48

REPORTS BY OKM 4/SKL III ON USE OF  
TYPEX BY THE ROYAL NAVY

Attached are translations of:

- 1) Extract from a 4/SKL IIIIm cryptanalytic progress report, dated 2/10/42, taken from a folder marked "State of Work 12/6/41 - 17/4/43" = TICOM Doc.No.T.517.
- 2) A short report by 4/SKL IIIIF, signed by C.R.R. TRANOW, taken from a folder marked "State of Work July - November 1943" = TICOM Doc. No. T.518. The report is undated, but was probably written about mid-September, 1943.

TICOM

No. of pages: 3

20th October, 1945.

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S.A.C. for H.C.S.G.  
S.A.C. for D.S.D.10., Admiralty  
Lt. Vance



Extract from an OKM 4 SKL IIIIm cryptanalytic progress report dated 2/10/42:

-----  
Cypher machine "R.A.F. Typex, Mark II, Cypher (Coding) Machine".

Along with shore-stations, which have already been using the cypher machine for a few years, it is intended at the end of April of this year to equip with this machine Naval Units down to and including flotilla leaders. The equipping of destroyers is projected. Each station will receive two machines, one for officers (Cypher Staff) and one for general purposes (Coding Staff). Each machine will probably be allocated a special set of drums. As far as is known, 10 drums will be available. In addition, a further 14 drums have been prepared, divided into two sets of 7 each (Cypher and Code), which will be used exclusively for Naval Traffic. The starting point indicators have been assembled in an indicator book. W/T messages longer than 60 groups must be encyphered with several starting points.

With regard to security, the machine can be treated like the recypher tables for C.-in-C. Flag Officers. In the opinion of Admiralty, however, the security of this machine does not correspond to that of the One Time Pad.

Apart from British stations, the machine has also been supplied to the U.S. Navy Department, C.-in-C. U.S. Atlantic Fleet and Commander, Task Force 24 in ARGENTIA. The equipping of C.-in-C. U.S. Pacific Fleet (HONOLULU) is projected.

(Undated approx. mid-September 1943).

#### BRITISH CYPHER MACHINE

(RAF Type X Mark II Cypher - Coding Machine).

In 1941 7 drums of the "Inter-Service Set" (S.P.02348) were temporarily in force in the Navy. Of these, drums 1 to 5 were black and 6 and 7 red.

Special sets of drums for purely naval traffic were under construction in 1941; 7 drums for Cypher X (green, SP 02390) and another 7 drums for Naval Code X (yellow, SP 02391).

The 7 drums of the "Inter-Service set" were to have come into force again for "Inter-Service" traffic, with special distribution, after the introduction of the special naval sets of drums.

Drums with variable pluggings were being constructed in 1941, which the Admiralty claimed would be particularly secure.

Distribution

Hitherto all major units and some destroyers were supposed to be equipped with a Cypher and Code machine. Flag ships were to be given four machines each to start with: two for the staff and two for the ship's command.

Equipment of the shore-stations, which is a priority matter, is said to be complete.

Several H.Q.'s of the U.S. Navy have also been issued with Typex.

Use

Predominantly for staff and supply matters between shore-stations.

Plain language is encyphered and signalled in 5-letter groups. Several settings are used inside long messages. The settings are separated by "QQQQQ".

Indicators

4-figure groups prefixed by letters.

Security

The security of the machine is placed by the Admiralty on the same level as the ordinary subtractors used with Naval Code and Cypher. However, it is expressly emphasised that the security of Type X is nothing like that of One Time Pads and that for this reason "Most Secret" information must not be encyphered in Type X.

III F

(Signed) TRANOW.



TOP SECRET 'U'**ULTRA**

ULTRA/ZIP/SAC/G.36

FURTHER TYPEX INTERROGATIONS

(Supplementary report to ZIP/SAC/G.34 and G.35).

(i) MUENTZ of 4 SKL III.

In view of MORGENROTH's statement (given in ZIP/SAC/G.34) to the effect that machine traffic had been read by the Germans after the Army had captured some key-sheets in North Africa in 1942, it was decided to reinterrogate MUENTZ on the subject of machines, since he was given as the source of the information.

MUENTZ stated that these key-sheets referred to the M.209 keys which were captured several times in 1943 during the Italian campaign. When it was pointed out that our previous information concerned North Africa in 1942, he answered vaguely that Italy and North Africa were "all the same thing". Indeed P/W was extremely vague about the whole subject of Typex, and as the interrogation proceeded, the interrogating officer became convinced that he was lying. P/W is very conceited and it is of course possible that he deliberately avoided any subject on which he was not an expert; but his attitude gave the impression that the whole question was distasteful to him.

He began by denying emphatically that he had ever heard of Typex, and was convinced that no investigations of British machine traffic were ever carried out in 4 SKL III. He found it hard to believe that any such traffic had even been intercepted. The "big English machine" conveyed nothing to him and he said that he was unable to understand all this talk of electrical machines. He was certain that the only captured machines in his department were M.209 and was unaware that any others were held by other departments. He admitted, however, in this connection that he had no liaison with OKH and the Luftwaffe other than on M.209 problems and felt sure that very little interchange of ideas and successes ever took place. He had never heard of OKW/Chi, but stated very emphatically that OKH was the department considered most expert on machine work. 4 SKL III generally ignored all machine problems and he reiterated that he would certainly have known if any machine traffic had passed through the English Referat. He was confused on the subject of Hollerith and stated at first that it was sometimes used for analysing machine problems; when pressed for details, however, he withdrew this statement and said that he had meant book-cyphers. He repeated several times during the interrogation that he had never heard of Typex and appeared surprised - even grieved - that he had never been told of it.

At this point the interrogating officer decided to "feed" MUENTZ, and began a sentence: "At the end of the war we captured certain OKM documents in which it was stated that ....." MUENTZ's reaction to this was startling. Without waiting for the end of the sentence, he grasped the table with both hands, gave an embarrassed laugh, and exclaimed: "Of course, how silly of me, I quite forgot; there was a machine Referat in 4 SKL III. It was under ... Fregattenkapitaen .. I will remember in five minutes". After five minutes he remembered. The head of this Referat was Fregattenkapitaen SINGER, who was the machine expert in 4 SKL III, and all problems were referred to him. P/W was very sorry that he had forgotten to mention him previously. He had no idea what was done in that section, for it was quite apart from the rest of the department. It was quite possible that Typex might have been investigated by SINGER and even that he might have had a captured machine; in any case, he, MUENTZ, would never have been told of it. He had a very low opinion of SINGER,

Please turn over



as indeed of everybody else in 4 SKL III, and considered that he sat about all day doing nothing. The Machine Referat might just as well not have existed. He suggested that we should be wasting our time if we decided to interrogate SINGER, because he was sure that he would not be able to tell us anything. The only work he had ever done was to undertake an investigation of German Enigma; P/W did not know what conclusions were drawn from this investigation.

When he was asked whether he had seen any captured Admiralty orders, MUENTZ said that he had read some S Orders early in 1943, but did not think that any were captured subsequently.

(ii) HENTZE of OKH. (See Ticom/I-113)

P/W stated that Typex had been studied at In 7/VI but without success. He felt that they would have got somewhere if they had captured a machine, but they never had any luck.

(iii) HERZFELD of OKH.

When he was questioned on this subject, HERZFELD recollected the following :- While serving with the English Referat of 7/VI in BERLIN, he read a message decyphered either by himself or by Oberinsp. LIEDTKE from Fortress Commander TOBRUK to H.Q. British 8th Army. The message was sent in the period October 1941 - January 1942 and requested that an expert be sent to Fortress TOBRUK for the repair of their X machine. This was the first knowledge P/W himself had of a British cypher machine. In September 1942, while searching some material for W.O.C. messages, he found a quantity of five-letter traffic. Oberinsp. ZILLMANN stated on enquiry that these were machine cypher messages and added, P/W believes, that no work was being done on them at the time. P/W cannot give any further details on this subject.

(iv) VOEGELE of Ob d L. (See Ticom/I-119)

P/W stated that he would certainly have heard had Typex been broken, and reiterated most emphatically his belief that it was never broken. He believed it was impossible and had never attempted it in real earnest. He ceased taking the messages in 1940. When informed that a P/W taken in CYRENAICA had described what appeared to be the registration of Typex traffic at ATHENS in 1942 or 1943, VOEGELE said that one of his staff there, a cryptographer named ROSSKATH, had unofficially arranged that they take Typex traffic again for 4 - 6 weeks. This was after RAF four-figure traffic became impossible. Nothing came of it. ROSSKATH left the American zone for the French zone on May 7th or 8th 1945, but failed to arrive. VOEGELE thought the man taken in CYRENAICA must have been GERHARDT who had been employed on SYKO statistics.

(v) BARTHEL of OKH. (CSDIC/CMF/Y 40)

Research work of any analytical nature was undertaken on traffic in Typex by 7/VI, but nothing was ever read. P/W was quite sure on this point. He stated that Dr. SCHULZ had been instrumental in solving, theoretically, the problem of how the internal settings had to be in the machine ("wie die Schaltungen innen sind"). Much to his annoyance, SCHULZ heard later (about 1942) that all the time a captured machine was in the possession of OKW/Chi. The machine had been captured at DUNKIRK.

Please turn over

Asked if he thought that the drum(s) had been captured as well as the machine, P/W answered that he thought they had been captured also, but he was not quite sure. According to him, work on Typex was given up after a while, or so he had been told.

(vi) General JODL.

P/W could not remember ever hearing of cypher machines being captured. He thought that nothing of particular advantage to the High Command was captured in North Africa, only the systems of lower formations.

(vii) Grossadmiral DOENITZ. P/W stated that no Allied cypher machines had ever been captured so far as he knew.

(viii) Fieldmarshal KETTEL. P/W had heard that cypher machines had been captured, but pointed out that a captured machine, as such, was no use at all without the keys. He thought that British cypher machines must undoubtedly have been taken at the time of DUNKIRK and probably in Africa and in Crete, but could give no details. In any case they never provided any sensational results.

Conclusions.

These latest interrogations still leave the North African story shrouded in mystery. It is clear that MUENTZ was trying to mislead us, although it is difficult to say whether this was because he knew too much or too little. Apart from his violent reaction when he learned that we had captured some of the OKM documents, it is hard to believe that he had never heard of a British cypher machine. He admits that he had read the S Orders early in 1943, and as both the 1942 and 1943 editions contain numerous references to Typex, he must have been at least vaguely aware of its existence.

What reason could he have for concealing this knowledge? Until now we have had no reason to suspect that OKM was concerned in the Typex story, and there is little reason to believe that they did more than keep a general watch on Typex traffic. We have to assume either that MUENTZ did not wish to admit that there were subjects about which he was not qualified to speak, or that he had learnt (e.g. from LUZIUS of OKH with whom he discussed M.209) certain facts about Typex research which he did not wish to give away. MUENTZ is clearly unreliable and it would perhaps be unwise to attach too much importance to his statements. It is interesting that he confirmed that OKH was the department most interested in machine problems, and that practically no liaison took place between OKH and the other departments.

Again, we are faced with the problem of VOEGELE. Mention has already been made in ZIP/SAC/G.35 of the conflicting evidence on the details of his trip to North Africa. In his last interrogation he was again "caught out" when he stated that the Luftwaffe ceased to intercept Typex in 1940, whereas we knew that ATHENS was passing Typex traffic to BERLIN in 1942. His story of ROSSKATH is scarcely convincing; and it is indeed strange that ROSSKATH "left the American zone on 8/5/45 and failed to arrive in the French zone". Again we have no definite evidence but the whole story does not ring true.

Please turn over



It is known that when the Italians intercepted Typex, they passed the traffic direct to BERLIN. If the Germans were so completely uninterested in its exploitation, it is difficult to comprehend why they were so interested in receiving the traffic that they even made this arrangement with the Italians. From this fact alone it is fairly safe to deduce that they never lost sight of the possibility of breaking the machine, even if their attempts never met with any success.

On the other hand, we have HERZFELD's statement that in September 1942 (i.e. shortly after the TOBRUK incident) no work was being done on Typex at the time.

There is no doubt that our knowledge about Typex is veiled in contradiction, in contrast to our information on all other British cyphers. It is strange that so many "suspicious" stories have arisen on this particular subject, nearly all connected with OKH.

It is clear that only prisoners from OKH are likely to be able to give us more information about German work on Typex, and it is suggested that all prisoners should be made to write homework on their methods of attacking the machine, even though they claim to have had no success. All new OKH Ps.O.W. should be given a detailed interrogation on this subject, and if possible HAUNHORST should be reinterrogated. Strong efforts should be made to apprehend the men who were chiefly responsible for Typex work in OKH - PIETSCH, DOERING, MENZER, LUZIUS, SCHULZ, ZILLMANN. Fregattenkapitain SINGER should be placed on the Brown List.

Appendices 1 and 2 attached give general details of these individuals.

G.C.C.S. (S.A.C.)  
20th October, 1945.

Distribution :-

1. The Director
2. H.C.S.G.
3. H.C.G.
4. D.D. 'Y', War Office.
5. J.H. Williams, Esq., Signals 6, War Office.
- 6-7. S.A.C. File.
- 8-12. Spare (5).



APPENDIX 1.

THE SCHULZ's.

Care should be taken to avoid confusing the following German cryptanalysts :

OKH

- (i) SCHULZ(E), Dr. Werner, Baurat. Reg, Baurat, previously Sdf (Z). Worked in 7/VI and in charge of English Referat, where he succeeded ZILLMANN. University lecturer, resident in Berlin. Mathematician. Political background unknown. Age about 30, medium build, fair hair, very intelligent. Worked on Typex with LUZIUS. (Brown List. Location unknown).
- (ii) SCHULTE, Uffz. Worked in English section of OKH 1941-43 as a cryptographer, was then transferred.

OKW

- (iii) SCHULZ, Reg. Rat. Worked in Anglo-American section of Gruppe V in OKW/Chi. Expert on the American strip system from the language viewpoint. Schoolteacher, resident in Berlin. Family last situated at AHNEBY near FLENSBURG.
- (iv) SCHULTE, Alfons, Reg. Rat. Worked in OKW/Chi under STEIN. Expert on German meteorological cyphers. Schoolteacher, resident in BONN, VENUSBERGWEG.
- (v) SCHULZE, Dr. Johann Friedrich. Temporary civil servant. Worked under Prof. FRANZ in OKW as an expert on the Hagelin. University lecturer, resident in BERLIN.

OKM

- (vi) SCHULTZE, Amtsrat. Variously described as head of Russian, French and American sections of 4 SKL III and as an expert on the Hagelin machine. Interrogated at FLENSBURG. On 21/7 was still held pending possible further interrogation.
- (vii) SCHULZE, Oberfachnr. Worked on English codes in 4 SKL III. Interrogations complete 21/7.

FERS ZS

- (viii) SCHULTZ, Dr. Mathematician, worked on Japanese machine until 1940, then on U.S. recyphered code and Strip 02. Finally assisted in Enigma investigation and solved Swiss Enigma. Interrogated and released.

APPENDIX 2.

SOME OKH PERSONALITIES.

- (i) DOERING, Wm. All P.S.O.W. stress his excellent work. An inspired cryptographer. Height 1.80m, blonde hair, clean-shaven, blue eyes, wide features, 33-34 years old, no accent, politically disinterested. Dr. of mathematics.
- Last seen late in April 1945 at GLASENBACH, near SALZBURG. Home address: HOMBERG, Bez. KASSEL, Wassmuthaestr. 2.
- (ii) LUZIUS, Dr. English cryptographer and mathematician. Uffz. in American Referat 1943-44. Excellent brain, specialised in X-machines. Politics unknown. About 30, tall, fair hair, wears glasses.
- (iii) PIETSCH, Dr. Mathematician. Pleasant but weak character. Speaks English and French. Expert cryptographer. Height 1.80m, weight 145 lbs, age 40, long face, fair hair and parted, clean-shaven, wears glasses. Home address: BERLIN/WILMERSDORF, Berlinerstr. 145.
- (iv) SCHULZ, Werner See Appendix 1.
- (v) ZILLMANN, Oberinsp. Low educational standard, colourless personality "no cryptographer". Nazi follower. Slight Berlin accent. Height 1.70m, fair hair, clean-shaven, blue eyes, age 35 - 40.

-----

MENZER, Oberinsp. In charge of a development and security group at OKW/Chi which produced systems for the RSHA, Reichsbank, Post Office and other Government Agencies. An old Reichswehr man who had joined OKW/Chi in 1935; not highly educated, but had been attracted to security problems.

SECRET

Recd. 2 / 10 / 45  
Reg. No. A.2291...  
File No. 35F...

The War Office,

Whitehall,

S.W.1.

October, 1945.

6(B)

1082/Sigs 6

Dear

*Colonel*

I forward herewith a preliminary answer to your questionnaire plus copies of the following signals:-

War Office 88712	13 Nov 43
Middle East I/38167	21 Nov 43
Middle East I/44472	7 Dec 43

2. As yet, I have been unable to discover the exact answer to question 2 and as regards question 5, I have only gone into detail in so far as it affects the period under review.

Yours

*Sincerely*  
*S.F.N. Lee*

Lt. Col. L.E. Clark, M.B.E.,  
Officer of Cypher Policy Board,  
C/o Room 17, Foreign Office.

*Lacked W.O. for this as I think  
it will be helpful in connection  
with Lach's investigation*

CSA  
~~CS1~~ by 2/10/45  
CS3  
CS4  
CS10  
SAC  
File



At outbreak of war system was

- (a) 5 solid (black) drums only.
- (b) Message began with codress.
- (c) Message setting was "open" i. e. actual tyre readings were transmitted and the msge setting could only consist of 5 of the 14 "large" letters on the tyre.

- 1. When was codress "burying" introduced? 1 Jan 41 worldwide.
- 2. When did the use of all 26 letters for message settings begin? Mid 1940 date not certain.
- 3. When were disguised message settings introduced? (This reverted to use of the 14 large letters only for both disguised and true). 19 May 41 in U.K. 1 Nov 41 worldwide.
- 4. When was the new type of message setting book introduced, giving 4 letter-4 figure disguised and 5 letters (any of the 26) for true setting? 15 Sept 42.
- 5. When were inserts introduced and in what stages? BX 722 for Torch operation 1 Nov 42  
BX 722 " Home settings 15 Dec 42  
BX 722 ) ME, EA & PAIC 15 Aug 43  
          ) or later for Aust. Canada, India.  
  
BX 711 Worldwide 1 Sept 45 3  
BX 691 Worldwide 1 Nov 45 2  
Also BX 755 BX 766 BX 777 at later dates.
- 6. When was new Typex procedure introduced viz. (a) ) 1 Feb 44 letter/shift  
          ) 1 Sep 44 fig/letter shift
  - (a) Letter shift (later Fig/Letter shift)
  - (b) Encyphered message setting (b) 1 Feb 44
- 7. When was Plugboard introduced and on what links? Gradually starting early 1941.

Eighth Army

- 8. When Tobruk was captured what Typex material had been held there? - Black drums 1-5 M.E. locally produced drum setting & message settings.
  - Drums
  - Settings
  - Message Setting Book
- 9. It is understood that at time of Alamein attack (23 Oct 42) Typex was held down to Corps only. That Corps held 5 (black) drums only, Army holding 5 (red) drums additionally. Is this correct? At Alamein Typex held down to Corps in Eighth Army with special Eighth Army settings prepared by Middle East. Army held red drums in addition.

SECRET

10. When 8th Army neared Tunis what was basis of Typex comm with 1st Army at lowest level? (? Corps)

When Eighth Army reached Tunis (Jan 43) Corps of First Army were given Eighth Army keys. At same time it was discovered that M.E. had NOT issued special No. 5 drums to Eighth Army and they were therefore ordered to introduce red 6 & 7 drum into Eighth Army settings. Early Feb 43 Eighth Army Corps were issued with I/S General settings. No Typex communication between Divisions of First and Eighth Armies existed until the invasion of Sicily.

11. When did 8th Army bring inserts into use?

Wef 1 July 43. Actually they were not used until the Sicily landings a few days later.

12. I/S Typex

- (a) 5 drums only
- (b) 5 black & 2 red
- (c) 5 " 5 "

(a) Wef 20 June 40 Army Home Typex settings with 5 solid drums were used for I/S communications in U.K. Overseas no such key existed although the Army held certain RAF keys.

(b) I/S General settings using seven drums introduced 1 July 41.

(c) I/S settings with ten drums introduced 1 Oct 44.

(d) Target date introduction I/S inserts world wide is 1 Nov 45.

**MOST SECRET**  
**CIPHER TELEGRAM**

This Message will not be distributed outside British or U.S. Government departments or Headquarters or re-transmitted even in cipher without being paraphrased.

390768.

From: C.-in-C. Middle East.      Recd. 1540 7 Dec. '43.

To: The War Office.

I/44472 cipher 7 Dec.      MOST SECRET.

Personal for Vale from Hume.

Your 88712 (Sigs 6) of 13 Nov. and our I 38167 of 21

Navy report no typex equipment held by RN ships or staffs using Tobruk. RAF report no machines or drums held RAF in Tobruk relevant dates. They add all drums held RAF during retreat to Alamein safely returned.

T.O.O. Nil.

C.6. Telegrams.      To: Sigs.6 (for action)

Copies to: D.D. M.I.(0)      Sigs.6(5)  
              D.D.'Y'            Admlty (War Reg.)  
              M.I.8.17.        A.M.C.S.(Air Minis ry)



**MOST SECRET**  
**CIPHER TELEGRAM**

386201

This message will not be distributed outside British Government Departments or Headquarters or re-transmitted, even in cipher, without being paraphrased.  
(Messages marked O.T.P. need not be paraphrased).

From :- C.-in-C. Middle East.

To :- The War Office. Recd. 1245 22 Nov 43.

I/38167 cipher 21 Nov. MOST SECRET.

Most Secret and Personal Vale from Hume.

Your 88712 (Sigs.6) of 13 Nov.

Your paras one two three answer No.

Your four not applicable.

Your five one set black drums Number 1270 handed over on authority CSO 8 Army to Captain MacFarlane Cipher Officer 2 SA Division reported by latter destroyed night before Tobruk file reference 8 Army X2/883 of 20 June 42. Destruction certificate black drums 1270 based on this cipher message which stated all cipher equipment except one 'W' Book one local recyphering table destroyed.

Your six one Typex machine with convertor batteries locally produced message settings and drum settings possibly also one copy BX 424/1.

Your seven No documents retrieved. Above information from Major North CCO 13 Corps above date and Captain Duckworth on CSO Staff 8 Army. Former speaks highly of reliability MacFarlane. Report other services follows.  
T.O.O. Nil.

Distribution by Sigs. 6.

C.6. (Tels). Copies to:- D.D.M.I. (0).  
D.D. "Y".  
M.I.8.  
Sigs. 6. (5 copies)

**MOST SECRET**  
**CIPHER TELEGRAM**

This message will not be distributed outside British Government Departments or Headquarters or re-transmitted, even in cipher, without being paraphrased.  
(Messages marked O.T.P. need not be paraphrased).

ONE TIME PAD.

From: The War Office                      Desp. 1545 13 Nov. 43.

To: GHQ Middle East.

.....88712..... Sigs 6 cipher 13 Nov.

IMPORTANT

MOST SECRET. OFFICER ONLY. Personal for HUME from VALE.

FW has made statements suggesting Type X equipment captured TOBRUK

June 42. You will appreciate necessity for urgent and exhaustive investigation this point. Can you provide information following points.

1. Were any black drums other than No. 1270 held in TOBRUK. *No*
2. Destruction certificate for above set held. Do you know how they were destroyed. *No*
3. Were red drums held. *No*
4. If so were they got away before any possibility of inspection by enemy.
5. Were any drums left behind either intact dismantled buried or disposed of any other way.
6. What Type X documents such as message settings drum settings instruction manuals were held there.
7. Were any such documents not retrieved as in para 4 and if so how were they disposed of.
8. Suggest other two Services should be asked to provide similar information.

C.6. Telegrams.

T O O 131230 A

Copies to: DEMI(0)  
DD'Y'  
MI 8  
Sigs 6 (5 copies)

THE SCHULZes

6(B)

By Huettenham  
& Fricke

Dr SCHULZ, Werner

Reg. Baurat previously Sdf (Z). Worked in In 7/VI and in charge of English Referat, where he succeeded ZILLMANN. = (i)  
Should be informed on Typex analysis.  
University lecturer. Resident in BERLIN.

SCHULZ .... Reg. Rat

Worked in Anglo-American Section of Gryppe V in OKW/Chi. New  
Expert on the American strip system from the language viewpoint.  
Schoolteacher, resident in BERLIN; family last situated at  
AHNEBY near FLENSBURG.

SCHULTE, Alfons, Reg. Rat

Worked in OKW/Chi under Dr STEIN. Expert on German meteorological ciphers. Schoolteacher, resident in BONN VENUSBERGWEG. New

Dr SCHULZE, Johann Friedrich

Temporary civil servant. Worked under Prof Franz in OKW/Chi as an expert on the Hagelin. University lecturer, resident in BERLIN. cf (iii)



C/463

6 (B)

TOP SECRET

9

6 (B)

Capt D. Ginsburg,  
CSDIC(UK),  
c/o Room 327,  
Hotel Victoria,  
London, S.W.

Dear Cmdr Dudley-Smith,

During the TYPEX investigations I re-questioned KARREBERG and his colleagues on their knowledge of Allied machine ciphers. They produced the following memorandum which I am forwarding in the original as I have no time myself to translate it.

Yours sincerely,  
*D. Ginsburg*

Cmdr Dudley-Smith, RN,  
G.C.H.Q.

Copy to: Duty Officer,  
TICOM,  
G.C.H.Q.

Bei der Gruppe VI Empfangsstelle West wurden englische und amerikanische Verkehre aufgenommen.

- 1) Amerikanische FF5-Verkehre
- 2) Amerikanische WT-FF5-Verkehre
- 3) Schnellmorse-Verkehre (Presseberichte der Kriegsberichterstatte)

Vermutlich wurden auch englische FF5-Linien abgehört. Um welche Verkehre es sich dabei im einzelnen handelte, ist nicht bekannt. Bei den amerikanischen (?) FF5 auftretender "Bandwurm" (Maschinenschlüssel) wurde mit Lochstreifen aufgenommen. Soweit bekannt, handelte es sich immer um kurze Sprüche, die der Gruppe IV zur Bearbeitung übersandt wurden.

Das erwähnte Maschinenschlüssel-Verfahren wurde von Uffz. Lachner im Referat 1b (Baurat Pietsch) bearbeitet. Das Referat 1a bearbeitete ebenfalls englische und amerikanische Verfahren. Einzelheiten darüber sind nicht bekannt.

Beim höheren NAKdr. Oberst Kopp bestand ebenfalls eine Entzifferungs-Gruppe in Stärke von etwa 20 Mann, die von Wm. Engelhardt geleitet wurde. Die Gruppe Engelhardt bearbeitete englisches und amerikanisches Material unter anderem mit einer elektrisch angetriebenen, selbst angefertigten Maschine. (Ein schwerer, schwarzer, metallener Kasten von der Größe 50,50,40 cm. - ungefähr - , der sich aus zwei, etwa gleich grossen Teilen zusammensetzte. An der Maschine befand sich vorn ein Tastenfeld ähnlich einem Fernschreiber. Auf dem oberen Teil waren Signallampen angebracht. Bei jedem Tastendruck leuchtete oben ein Buchstabe auf - ähnlich der deutschen Schlüsselmaschine) Aufbau, Funktion und welche Verfahren damit bearbeitet wurden, ist nicht bekannt. Angeblich wurden mit Hilfe dieser Maschine vollständige Lösungen (nicht Einblättche) erzielt.

In Rahmen der Verlegung des Gen. d. N.A. im Februar wurde das Referat Pietsch zu Oberst Kopp kommandiert und arbeitete dort mit der Gruppe Engelhardt zusammen. Von Referat Pietsch wurden französische, englische und amerikanische Maschinenschlüsselverfahren unter Verwendung der Enigma bearbeitet. Als der höhere NAKdr. im März zurückgehen musste, wurde das Referat Pietsch und die Gruppe Engelhardt nach Bad Reichenhall geschickt. Von Bad Reichenhall wurden die Referate Pietsch und Marquardt sowie die Gruppe Engelhardt aus Platzmangel nach Unken b. Reichenhall verlegt. Die Gruppe Engelhardt wurde dort dem Referat Marquardt unterstellt. Hier habe ich Wm. Engelhardt Mitte April zum letzten Mal gesehen. Die Schlüsselmaschine wurde ebenfalls nach Unken mitgenommen.

TOP SECRET

6(B)  
Issued as TICOM/I-149

(In 15(I).)

REPORT BY UFFZ. KARRENBERG AND COLLEAGUES  
ON ALLIED CYPHER MACHINES.

Attached is a translation of a report on Allied Machine cyphers by Uffz. KARRENBERG and his colleagues, of Signals Recce Command, Gruppe VI, written at our request at CSDIC (UK) in October, 1945.

Trans: J.M.E.

TICOM  
October, 1945.

No. of Pages:

Distribution:

Extra:



TOP SECRET

The ((following)) British and U.S. traffic was intercepted by Group VI of Receiving Station ((Empfangsstelle)) West :

- 1) U.S. FF5 traffic.
- 2) U.S. WT-FF5 traffic.
- 3) High speed MORSE (Press reports by war correspondents).

British FF5 links were presumably also monitored, but we do not have any details as to which traffic it was. The U.S. (?) FF5 "Tapeworm" (cypher) which came up was intercepted on a punched strip. As far as we know, the traffic always consisted of short messages which were passed to Group IV to be worked on.

The machine system referred to was worked on by Uffz. LACHNER in Section 1b (Baurat PIETSCH). Section 1b also worked on British and U.S. systems. No details are known.

A cryptanalytic party, numbering about 20 men, under Wm. ENGELHARDT also worked with Senior Signals Recce Commander Oberst KOPP. The ENGELHARDT party worked on British and U.S. systems, using, among other things, an electrically driven apparatus constructed by themselves. (This was a heavy, black-painted metal box, measuring approximately 50 x 50 x 40 cm, composed of two parts of about equal size. In front of the machine was a keyboard, like a teleprinter. The machine was fitted in the upper part with a set of indicating lamps; when a key was depressed, a letter was illuminated above, as on the German cypher machine). The construction and function of this apparatus, and the systems with which it dealt, are unknown to us. It is alleged that complete solutions (not breaks-in) were achieved by means of this machine.

Consequent upon the transfer in February of General Commanding Signals Recce Forces, PIETSCH's section was seconded to Oberst KOPP, and worked there in collaboration with the ENGELHARDT party. The PIETSCH section worked on French, British and U.S. machine systems using the ENIGMA. When the Senior Signals Recce Commander had to retreat, PIETSCH's section and the ENGELHARDT party were sent to BAD REICHENHALL. From there, owing to lack of space, PIETSCH's and MARQUARDT's sections and the ENGELHARDT party were moved to

2.

UNKEN near REICHENHALL. There, the ENGELHARDT party was subordinated to MARQUARDT's section. It was here that I saw Wm. ENGELHARDT for the last time, in the middle of April. The cypher machine was also taken to UNKEN.

TOP SECRET 'U' AND

STRICTLY PERSONAL

**ULTRA**

ZIP/SAC/G.35

Copy No: 7

6(B) 7

FURTHER INFORMATION FROM GERMAN Ps.O.W.

ON TYPEX.

In view of the information contained in ZIP/SAC/G.34, suggesting that Typex may have been read by OKH during the North African campaign, it was decided to intensify the interrogations on this subject, and in particular to seek further statements from the heads of OKW and OKH. For this purpose it was thought necessary to "feed" to the prisoners a modified version of the North African story in order to observe their reactions and gain information in return.

(a) HUETTENHAIN and FRICKE.

On 25/9/45, HUETTENHAIN of OKW was told by the interrogating officer that METTIG had made a statement to the effect that an intact Typex machine had been captured at TOBRUK in 1942, along with certain other documents. On the basis of this data, back traffic was decyphered and an analysis into the settings of the machine was carried out in BERLIN. It was then possible through the specialist assistance of OKH in 7/VI to read current Typex traffic on new settings during the North African campaign. Inspektor ZILLMANN, Inspektor HARMS and Dr. VOEGELE were named as having taken part in this work and NFAK 621 was also supposed to have taken part in the picking up of such traffic. METTIG was alleged to have described the Typex machine accurately and to have stated that by the breaking of W.O. Cypher 'W' the German Cryptographic Service knew that there was an intact Typex machine in TOBRUK. ((Note: The reading of this cypher had been ascertained from P/W HERZFELD - see Ticom/I-51)). It was also suggested to P/W that successes over Typex were covered by a special security oath just as successes in breaking the traffic of the Polish underground movement to LONDON were covered.

P/W stated immediately that he considered that METTIG was mistaken in his judgment and added that he was unaware of any such security oath over Typex and was quite certain that no such oath had existed for the Polish traffic. He agreed to consolidate his remarks in a memorandum and asked for permission to discuss that matter with Dr. FRICKE.

On the following day, Ps.o.W. were told that additional confirmation was forthcoming through a statement by an intelligence officer of the German GS in North Africa. They were then given a short version of the HAUNHORST story published in ZIP/SAC/G.34.

Before producing their statement, they spent some time discussing the problem under SRM conditions, and the following is a summary of the more important parts of their conversation.

- H. (Informs F. of what he has just been told).
- F. That's a new one on me.
- H. Then I told him: "The only captured Typex I know was in France, without wheels. I was always discussing it with PIETSCH and the others and they never said anything about working on it, let alone reading it. Inspektor HARMS was down there and worked on and solved hand cyphers". Certainly he went down there with VOEGELE; I'm sure of that, he told me so. He complained about

Please turn over



VOEGELE because he had done absolutely nothing, just arrived with some boxes, empty, and gone back with them full. Now I've got to make a report and talk it over with you. I said I'd never heard anything about it and we had already talked it over. Then they said: "How is it that METTIG made this statement then? I said: "It's completely incomprehensible to me".

- F. I don't believe it. I'll think it over for a bit, but it seems to me quite unbelievable. Some things about it are certainly unbelievable - first, that they should have read Typex without us learning anything about it. You learn nothing about it, we learn nothing about it - impossible! If anybody had read it, it wouldn't have been HARMS, but people like DOERING, BUGGISCH, MARQUARDT, HUELLBURG. PIETSCH wouldn't have done either.
- H. No, but PIETSCH would have known about it.
- F. Of course! .....
- F. I think it's possible there may have been an oath of secrecy in In/7. It's quite possible with PIETSCH's love of secrecy. He loved any joke like that.
- H. Supposing it were so. Is that why In/7 were always worrying about the Enigma? PIETSCH's report with the Poles (?), his going back there again .....
- F. Yes, but what's the Reissicherheits-Hauptamt to do with it?
- H. Obviously they've something to do with it, I don't know what. I didn't like to ask him (I.O.).
- F. Anyway, it's quite clear there must have been a machine in TOBRUK, and these people are trying to find out about it. If they hadn't lost one there, they would have rejected the whole thing and thought METTIG was lying. Now when was TOBRUK? I wasn't at In/7 then, so really I can't know either. Still, I was on the way down there in winter 1940; I was in MUNICH and was supposed to be going to TRIPOLIS, and TOBRUK was being besieged at that time.
- H. ... that was in '41.
- F. Then METTIG wasn't there at that time. He came in autumn or winter 1941 .....
- F. All these people, PIETSCH and so on, were always saying to me: "We don't know the Typex wheels, we don't even know the machine - and so we can't even set about solving it". And he was the man in In/7 who should know best.
- H. I had a detailed talk with HARMS, whom I knew from old times, both before and after his journey. That was when he was with SEEBOHM. He said nothing about the machine. He said he had gone down there with VOEGELE to see what had been captured in TOBRUK. First they were in ROME, then they flew on to TOBRUK, but he left again at once for there was nothing there. Then he went on to the company with which he had been a decoder for six months earlier on, again to find out what had been captured. He never told me he had found a machine.
- F. So we can only say we think it completely impossible.

- H. Yes. Now the question where METTIG got his story. I told him (I.O.): "METTIG hears of so many machines and is mixing them up". What about this oath then, one can't get that mixed up. METTIG also described the machine and his description fits exactly with Typex. Now I've also seen a Typex which MENZNER had standing in his room, and METTIG must have visited MENZNER and seen it there. He was with us too more than once and must have an idea from that what it looks like. As for reading it currently, that might be the American machine, the Hagelin, which he is getting confused.
- F. .... From all this it follows that they haven't got PIETSCH.
- H. No, they haven't got anybody. They haven't got DOERING, they haven't got BUGGISCH, they haven't got anyone. That's why they've come back on us to see what we had to do with it. ....
- H. HARMS was in Africa twice, once for half a year perhaps. Later he went down again with VOEGELE, they were there about a fortnight. When he returned, he said to me: "I didn't want to stay any longer. There's nothing more for an old man down there, it's too hot for me". Is METTIG swanking when he says we read it? But he must realise that such a question would be followed up, or does he really believe it? If he doesn't want to swank, though I can quite believe if of him on the motto 'He who gives away gets more from life' and he wants, if possible, to get a position as full Colonel, - if that isn't the case, he's simply mixing every possible thing up together which he's ever found out ..... Then they asked whether it had been solved or dropped. I said: "If it had been done at Chi, I would have been the one to decide; ... and my decision would have been: we can't even begin without wheels. In In/7, as far as I know, it would have been PIETSCH and DOERING who had the last word. Now it's clear why he (I.O.) keeps bringing up the subject of Typex. The Typex which we had at Chi, without wheels, was the one captured in DUNKIRK.
- F. I knew about that one long before I was in Chi. We must again consider: what could they have done, so that even with such an oath PIETSCH didn't think it worth while saying anything?
- H. I can quite imagine PIETSCH, if he was bound by an oath not to talk about it even to fellow-workers, he wouldn't talk. But at the committee meetings which took place exactly a year ago - there was a discussion of Enigma at the very first sessions, and we spoke about the possibility of solving the K Machine, and we came to the decision: yes, if one has the wheels, one can do something, but without the wheels you can't solve a single message or a group of messages. Do you think then that nobody, neither PIETSCH nor DOERING would have said: "But we have been successful in breaking Typex which is a rather more complicated form of the K Machine". Then the oath wouldn't have applied any more for it no longer existed, Africa was all over .....
- H. Let's assume that like our Enigma it has a pin (Kerbe). Then there were, so far as I can remember, five wheels. Three wheels moved exactly like Enigma, and two were adjustable; the two fixed ones were in front, which were the righthand ones in Enigma, so that you could have 676 different starting-points, i.e. it would have been 676 times as much work as Enigma .....
- F. From spring 1942 Typex was not decyphered in the English Referat. I had a good friend in the English Referat, WERNER SCHULZ, and I often talked with him. He would certainly have told me if they were reading Typex.

Please turn over



- H. It might have been that in In/7 they wouldn't have known anything about it and the Mathematical Referat would have done the things. Who was the head of the English Referat ? Was it ZILLMANN ?
- F. Yes.
- H. HARMS swore terribly about him too. He was always squatting over his work, let nobody have a look-in, taught nothing, said nothing.
- F. Yes, there was nothing for him to say.
- H. I was on such good terms with HARMS that we had no secrets from each other. We spoke of God and the world, and not a word about that. It's quite out of the question .....
- F. He must be getting everything mixed up .....
- F. Was HARMS the only one they mentioned in In/7 ?
- H. And ZILLMANN.
- F. The two night-birds ! (laughter) ...
- H. .... I said: "I am sure for the following reasons that HARMS took no part in any investigation. For one thing he didn't tell me, and for another I know him well enough to be sure that he is not in a position to carry out such an investigation. I don't know ZILLMANN, but judging by what others have told me of his capabilities, I might say that he too was not in a position to do so !"
- F. Yes. Such a rogue ! The rubbish he talks is just frightful ! Everything which he half knows or has heard anywhere, he mixes up together wildly. (Note: This possibly refers to METTIG, not ZILLMANN)) .....
- F. I know myself that PIETSCH said: - and DOERING was there too - "We have no wheels".
- H. None, and so we can't do anything. Yes, he told me that several times too .....
- F. I often talked about it to VON DENFFER. He said: "Is it possible that in all Germany no wheels have ever been captured ?" You must remember that VON DENFFER had much more influence than DOERING or BUGGISCH and would certainly have known something about it.
- H. .... METTIG has mixed up Typex with the other machines. (Pause) Was War Office Cypher actually read ?
- F. What was it ? A W/T table ?
- H. No, it was probably double transposition or something. I thought that was odd too. I've never heard anything about it. I don't know what the names meant. (Whispering) War Office Cypher is certainly something very secret - something better than a W/T table (Funktafel). (Pause) Is all this because you said recently that somebody had an electrical cypher-machine in his cupboard - but that must have been the American one.
- F. Higgeldy piggeldy. I reckon his reason must be failing him.
- H. Yes, certainly.



- F. I think, if a man like DOERING or BUGGISCH had been there -
- H. .... I also talked to BUGGISCH on every subject when he was at Chi, and that nobody there - Do you know VOEGELE ?
- F. Only by name .....
- F. All because of this stupid man (METTIG) we are being suspected of holding something back.
- H. That's right.
- F. For now these people think - .....
- H. We must assume that the English disguised the key so that it was impossible to recognise which wheels were in use or to read off the setting. So one has to make 252 attempts each day, i.e. one must solve 252 K Machines ..... That's an enormous labour and they would be bound to know something about it; it would be impossible to keep it secret.
- F. I agree.
- H. We are supposed to include our conjectures about what METTIG can really have meant and what he is mixing up.
- F. We can say that if he maintains that he saw a machine, it must have been the machine with German wheels inserted.
- H. .... I know: it may be that he meant the American machine, and as to the oath of secrecy - well, I don't know anything about that. All I know is that there was no special oath of secrecy with us at Chi. That's completely false, what he says about the Polish business also being under an oath.
- F. That's the best way of showing that he's wrong; the man in charge of that spoke about it to the whole Chi-department. ....
- F. I think it would be a good thing, such small statements of BRAUN, which to characterise the position - - ((sentence incomplete)).
- H. But we don't know whether that's why he's doing it. One's inclined to drag BRAUN in whenever possible.
- F. One thing is clear: METTIG is giving things away, that's quite clear.
- H. He might perhaps say in general terms that the situation shortly before the collapse was that in Germany leading circles thought that we might rescue the situation by helping the English and Americans against the Russians. For that reason one might explain the bearing of many officers, who are anxious to make a good impression on the English to make them think they had found a worthy Ally. But I don't know .....
- F. A thin story. No, they're aware of that.
- H. Wherever possible he wrote that he was in charge of the thing.
- F. You can be quite sure, he is following BRAUN's advice: give things away, swank.

- F. .... PIETSCH was a great one for secrecy. But if an actual decyphernent or a good knowledge of Typex had been available, I would have known .....
- F. If anybody knew anything about it, it would be PIETSCH.....
- F. Once I talked about the possibility with BUGGISCH: "What would the wheels look like ?" And he came out with: "We don't know". But BUGGISCH said to me: "I feel certain it has several notches (Kerben) and not just one" .....
- F. I keep on feeling that they (the Allies) have not got PIETSCH or the others. I'm not surprised they haven't got DOERING or BUGGISCH. BUGGISCH is so intelligent, he would say to himself: "I'll go into agriculture somehow" and he may also have tried to get home to his wife. That's not so easy. But PIETSCH and his people, they were down there (?), they didn't go over to the Russians. What happened to HARMS ?
- H. HARMS came to Chi later on.
- F. Then what happened to him ?
- H. He went South with VAUCK .....
- H. The machine ((captured in DUNKIRK)) was provided with German wheels and given to an air station at POTSDAM with a question-mark. I think I can even write that without a question-mark, for I think I remember exactly.
- F. That was done, because it was a writing machine -
- H. A writing machine, and I even think there was one like it with SCHULZE in England ((i.e. Referat)).
- F. How could they work with a different machine ?
- H. MENZER arranged that. The Eingangswalze was bridged over in front.
- F. Who had this machine at any time besides Chi ?
- H. I don't think anybody had.
- F. I know the Waffenant exactly.
- H. It must have come to us from the Waffenant.
- F. It can't have, I saw this machine in the Waffenant in Autumn 1942 in PUPP's room. That was the first time I saw the machine, it was when we were with KAMM about Geract 39. You were there yourself and BUGGISCH..... It was a big empty box, to the right and left there <sup>were</sup> shift-keys like a typewriter..... Now you say it was placed at the disposal of the Luftwaffe. Then how can METTIG have seen it with MENZER ?
- H. It was in our room at Chi for months.
- F. 1940 - 41 ?
- H. I don't know exactly, I think so.



- F. In any case not at the end ? Not for the last two years ?
- H. Certainly not. Here behind were the wheels, arranged like this (demonstrating) and here was the entry-business (Eingangsgeschichte), here were the two wheels which turned. Then here behind you could see some levers and here there was room for two wheels which could be inserted ..... I know MENZER said afterwards that the machine was being used and that they were very pleased with it .....
- H. I wouldn't like to swear an oath that three wheels were driven and two inserted. Four may have been driven, but I think three..... In principle the machine works like the K Enigma.
- F. I wouldn't say K.
- H. It works on the principle of an Enigma without plugboard ..... It was not known how many wheels belonged to the machine, nor whether the wheels were provided with notches (Kerben).
- F. .... so that nothing could be said about the movement of the wheels.
- H. So far as I know there was no plugboard.
- F. No, not like a German one. But everything possible was missing.
- H. We'll just write that the machine worked like a German -
- F. We don't know that the machine worked. From what we saw we had to conclude that the machine worked.
- F. At In/7 they had some cypher material.
- H. From where ? From France ?
- F. I don't know. I know that at In/7 at the beginning of the war, after the French campaign, etc., they intercepted Typex messages and these messages were examined, I don't know from what viewpoints. As far as I can say, there were investigations: can one say anything about the indicator, how do the cypher-texts look ? Statistical investigations were made. We know that these investigations were fruitless, so that all attempts ceased.
- H. As far as we know they were never resumed. I talked to PIETSCH about it at various times.
- F. Then the TOBRUK business -
- H. About the TOBRUK business we could say: we are not aware that any Typex was found at TOBRUK at all, let alone a Typex with wheels ! ....
- H. (Re-reading their homework). From what we found it would have been impossible to decypher messages encoded in Typex. No attempts were undertaken at Chi.
- F. Shouldn't we omit: "No attempts were undertaken at Chi" ?
- H. No, you said we should write that. We can quite safely write that.
- F. Oh, all right. (Pause) Now there must be something about this -
- H. Secret -
- F. Yes. I can't say now.
- H. I know nothing about that. I have never once had a suggestion or a suspicion or a conjecture that there was anything like that.
- F. So one could say -



H. We can safely write: "We are not aware that inside Chi there were any oaths of secrecy for special methods of solution and successful achievements."

STATEMENT BY Ps.o.W. REGIERUNGSRAT DR. HUETTENHAIN AND SDF 'Z'

DR. FRICHE ON TYPEX.

On the conclusion of the French campaign in 1940, OKW/Chi received a cypher machine, Typex, which had been picked up at DUNKIRK. The wheels belonging to the machine were not found. In size and weight the machine was similar to the German STMT 52. At the front of the machine was a keyboard, to the left and right a typing frame and at the back of the machine a space for the five (?) cypher wheels. Owing to the absence of the wheels it could not be established how the machine worked; it was presumably operated as an Enigma without 'Steckers', although nothing definite could be stated about the total and succession of the wheels. In addition it would have been necessary to know how many notches were to be found on an individual wheel. This machine was definitely examined by representatives of In/7 and the Waffenant, and may well have been lent to those departments for a time. Owing to the possibility of clear and cipher printing the machine was taken away from O/Insp. MENZER (who at the time was not a specialist for RSHA and government department work, but was in charge of general development and research) and so rebuilt that it was fitted with three German Enigma wheels for further employment. As far as is known, the machine was then handed over to a Communications Centre of the G.A.F.

With the information at their disposal it was impossible to decypher Typex traffic and such attempts were never made at OKW/Chi.

After the fall of TOBRUK Dr. HARMS (In/7) and Regierungsrat VOEGELE (Luftwaffe) went to Africa to look for captured documents, etc. It is not known that these experts went to Africa with the special job of looking for a Typex machine, nor was it ever reported that they found one, indeed according to statements by Dr. HARMS to Dr. HUETTENHAIN, the journey was undertaken in vain. It is however known that from the outbreak of the war to the end of 1941 (?) Typex traffic was held at In/7 and that analysis was undertaken on the subject of indicator groups and letter frequencies. It is not known whether these investigations were carried out continuously over the entire period or whether merely control checks were carried out at odd intervals. Dr. PIETSCH, O/Insp. ZILLMANN, Dr. Werner SCHULZ and Dr. LUZIUS will be accurately informed on these researches. It is known through conversation with these experts that these investigations produced no results.

Ps.o.W. are unaware of special security oaths on analytic methods or successes existing either at OKW/Chi or In/7. Indeed it can be safely assumed that the experts in In/7 were quite open in their exchanges of views with OKW/Chi. Hence it can be considered unlikely that any experts in In/7 would have concealed any exclusive knowledge on Typex, especially as such knowledge would have been highly significant in the assessment of the German Enigma.

If nevertheless an intact cypher machine had been captured at TOBRUK, and Ps.o.W. had never heard of such an occurrence, it would have been quite impossible for the traffic to have been cracked by personnel from Signals Intelligence in Africa; indeed the most that these latter could undertake would have been mere decyphering work on the basis of captured cypher sheets. For cryptographic work it

would have been necessary to call in mathematical experts of In/7 from BERLIN. These included in the first instance PIETSCH, DOERING, BUGGISCH, MARQUANDT, Werner SCHULZ and LUZIUS. In addition the head of the English Section of In/7, ZILLMANN, would have been informed. During many exchanges of views on cryptographic problems the above-named experts had never spoken about cryptographic successes on Typex. Indeed they always stated that while information on the wheels of Typex was lacking, cryptographic successes were impossible.

It is therefore considered impossible that any cryptographic successes on Typex were achieved in BERLIN.

It is also considered unlikely that intact Typex machines were captured in Africa. Even simple decyphering work is considered unlikely, because it would not have been enough to have captured cypher sheets in one's possession but it would also be necessary to have held an intact machine, including wheels.

It is, however, possible that visiting General Staff officers have been misled by what they saw and might well have been deceived by the presence of German Enigma wheels in an empty captured machine.

Should, however, it turn out that some of the experts named above were in possession of a complete Typex machine and have achieved successes, both these Ps.o.W. would lose their last faith in their fellow beings.

(b) METTIG.

After the above statement had been made by HUETTENHAIN and FRICKE, it was decided to apply the same test to METTIG. On 28/9/45 he was therefore told that according to a statement made by an Intelligence Officer of the German G.S., an intact Typex machine had been captured at TOBRUK in 1942 along with certain other documents. On the basis of this data, back traffic was decyphered and an analysis into the settings of the machine was carried out in BERLIN. It was then possible through the specialist assistance of OKH In/7/VI to read current Typex traffic on new settings during the North African campaign. Insp. ZILLMANN, Insp. HARMS and Dr. VOEGELE were named as having taken part in this work and NPAK 621 was also supposed to have taken part in the picking up of such traffic. The BJ's were sent to BERLIN by courier. It was also suggested to PW that successes over Typex were covered by a special security oath. PW was asked to comment on these facts and to explain his former contradictory statements.

He stated categorically that Typex had never been broken and agreed to incorporate his remarks in a memorandum. While he was preparing the following statement, he was heard to say to MORGENROTH: "We should have heard if the English machine was being read".

STATEMENT BY OBSTLT. METTIG ON TYPEX.

It is not known how long investigations into Typex traffic have been going on, but during the Western campaign of 1940 such traffic was picked up by intercept units with Army Groups A and B. No success was achieved by the very weak cryptographic sections of these units. Captured machines were all lacking in wheels. During the period Nov. '41 to June '43, when PW was in charge of In/7, continuous investigations

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were made into Typex traffic. No solution was achieved in BERLIN, nor could PW remember any details of any possible partial successes in the analysis of indicator groups, etc. Researches were carried out by the Machine Referat, under Dr. PIETSCH, assisted by Sgf. STEINBERG and probably by VON DENFFER, DOERING, KEHREN and possibly FRICKE. O/Insp. ZILLMANN as head of the English research was continuously in the picture. OKW/Chi were never officially called upon, but exchanges of view took place between the experts Dr. PIETSCH and Dr. HUETTENHAIN. Whereas all cryptographers in In/7 were sworn in by a special security oath, no exclusive oath was administered on the subject of Typex. If any special oath were taken over Typex, it must have been introduced by Dr. PIETSCH himself or by PW's successor. PW remembers that after the capture of TOBRUK Insp. HARMS was sent to TOBRUK to look for captured documents and especially for the Typex machine. PW however remembers quite clearly that the search for this machine proved vain. It was also reported that most captured signals material had been removed by the Air Force.

The Intercept Coy. in North Africa worked in close touch with the Intelligence Department of the G.S. Duplicates of all decodes were passed to BERLIN to In 7/VI by courier. PW has never known that the Intercept Coy. in North Africa had ever succeeded partially or completely in breaking Typex. Typex was not, to PW's knowledge, solved after his departure from In/7, and he assumes he would have heard of such a significant success even at a later date. Moreover, a success of this nature would have been mentioned in the list of German cryptographic successes that was drawn up for PW prior to his visit to SHAEF with the liaison commission of OKW.

#### CONCLUSIONS.

The two statements above bring us little nearer to the answer to the problem raised by the HAUNHORST story, and it is now hoped that it may be possible to reinterrogate HAUNHORST on this subject. The Interrogating Officer is convinced that the prisoners' reactions are genuine and that they are not trying to mislead us. Indeed, there seems little doubt from the above that HUETTENHAIN and FRICKE are telling the truth and that they genuinely believe that no success was ever achieved on Typex. METTIG, however, has made no attempt to explain his previous contradictory statements, and we are left to decide whether OKW did in fact have some success in 1942 which it withheld from other departments.

Many of the facts put forward in ZIE/SAC/G.34 have now received interesting confirmation. We know that the agent report that the G.A.F. were using two captured machines for their own traffic was in fact correct. We know from METTIG that decodes were in fact sent back to BERLIN by courier, and it must have been these of which HAUNHORST was thinking.

We also have an interesting account of the visit by HARMS and VOEGELE to TOBRUK. HARMS told OKW nothing about the capture of Typex machine, and METTIG states that all the documents had been removed by the Air Force. If this was the case, it is rather strange that no attempt was made to find out what the Air Force had taken. It is also strange that in his latest interrogation (not yet published) VOEGELE of G.d.L. stated that all the documents had previously been sent to OKW and thereby contradicts METTIG's account. In fact, each one seems to be throwing the responsibility for these mysterious documents on to another department.

Please turn over



HAUNHORST's statement has been denied but not disproved. It must not be forgotten that HAUNHORST gave a description of a machine which could only apply to Typex, and that the North African story was shrouded in secrecy, even to the identity of "WAGNER". There is little doubt that NFAK 621 was passing decodes of War Office Code to BERLIN by courier, but it is hard to believe that HAUNHORST could confuse the breaking of this code with the breaking of Typex. It might have been that he saw WAGNER attempting to break Typex in TOBRUK and assumed that the WOC decodes which he received were part of the same story. Why, then, should OKH deny that there was a machine in TOBRUK if it were only used for investigations ?

In this connection it is interesting to see that HUETTENHAIN and FRICKE had not even been told about War Office Code, in spite of their certainty that OKH was telling them everything. If OKH failed to share their information on WOC, it is hardly surprising if they were even less forthcoming on the subject of Typex. The first reaction of HUETTENHAIN and FRICKE was to suspect PIETSCH of holding things back; and they themselves asked the question why OKH was so concerned about the security of Enigma if they believed Typex to be insoluble.

We cannot be certain that Typex was never read until we have a satisfactory explanation of how HAUNHORST was able to describe a Typex machine in TOBRUK which according to all other interrogations never existed. From the information so far obtained, it seems probable that if Typex was ever broken it was done exclusively at OKH and the information was not passed on to other departments. The men most likely to know about this subject are PIETSCH, DOERING and MENZER. Meanwhile it would be of the greatest interest to see how HAUNHORST reacted to further interrogation.

G.C.C.S. (S.A.C.)  
15th October, 1945.

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TOP SECRET 'U'

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D.D. 'Y', War Office.

J.H. Williams, Esq., Signals 6, War Office.

(Copy to :- Lt. Colonel Clark, Chesterfield Street).

Attached for information and retention is a copy of a report we have drawn up on the possible exploitation of Typex by the enemy (ZIF/SAC/G. 34).

MSTTIG and MORGENROTH are in the process of being further interrogated on the matter. Arrangements are being made for MUEHNTZ and Amtsrat SCHULTZE to be questioned again. It may also be possible to get HAUFHORST back and his present whereabouts are being traced.

ZILMAN, Baurat SCHULZE, LUZIUS and HELLER are on the "Brown List" but have not so far been found.

*P. Phacfarlane*

2nd October, 1945.



10, CHESTERFIELD STREET,  
LONDON, W.1.  
GROSVENOR 3095-6

Ref. 1985

6(B) 5  
OFFICES OF THE CYPHER POLICY BOARD,  
C/o ROOM 17,  
FOREIGN OFFICE, S.W.1.

TOP SECRET

28th September, 1945.

Dear Dudley,

Typex Security Research

Reference your Zip/Sac/G.34 of 22nd September I feel I would like a copy of this to go to Williams, Signals 6 (through DDY of course).

The Army are the most interested party in connexion with the evidence obtained and I have already had a discussion with Williams about this as a result of which he is aiming to get in touch with Captain Price who was the cypher officer concerned at Tobruk. Price was taken prisoner but is presumably now back in this country. Williams is also hoping to interrogate Major Grigg who was in charge of cypher security at G.H.Q. Middle East at that time.

Yours sincerely,

Cdr.(S) R. Dudley-Smith R.N.,  
STATION X.



ACTION

1) ZIP/SAC/G. 34

2) DS/6(B)/1475

---

INFORMATION

Owen

~~Blake~~

Campbell

Perrin

Rolf

Oliver

~~Pete~~ Ellis

Field

---

DISPOSAL

Back to D-S.

---

6(B).

(B)

TOP SECRET

DS/6(B)/1482

24th September, 1945.

Dear Ginsburg,

With reference to my DS/6(B)/1474 of 22nd September, 1945, I attach a note on the various SCHULZE's. It is curious that there is no evidence of anybody of this name in OKW despite Mettigs' statement to us in his room about Baurat S. of OKW - presumably he meant Reg. Baurat Dr. S. of OKH (item (i) on the attached) but this should be followed up.

Yours sincerely,



Captain D. Ginsburg,  
CSDIC (UK),  
c/o Room 327,  
War Office,  
(Hotel Victoria).

TOP SECRET ~~W~~

The SCHULZEs.

- (i) SCHULZ(E), Dr. of OKH. (Brown List. Location unknown).

Herzfeld gives the following description : "English interpreter, mathematician and cryptographer. Head of Middle East section of the English Referat in 7/VI, 1942 - 1944. Took over from Zillmann and was promoted Regierungsbaurat. Political background unknown. Age about 30, medium build, fair hair, very intelligent." Earlier he spoke of Sdf Z SCHULZ, who worked with ZILLMANN, HARMS and LIEDTKE. (TICOM/I-51).

Schuck mentioned Regierungsbaurat Dr. SCHULTZ, head of Anglo-US department of OKH, careful, anti-nazi. (TICOM/I-80).

Dost said (addendum to CSDIC/CMF/Y 31) that Dr. SCHULZE and LUZIUS had worked on Typex at OKH. He said that Sdf. SCHULZ (now Oberbaurat or Dr. or both) took over the combined Anglo-U.S. Referat in 7/VI in Spring 1944. He is reported to be a good mathematician and efficient in his job.

- (ii) SCHULTE, Uffz. of OKH worked in the English section 1941 - 1943 as a cryptographer, was then transferred.
- (iii) SCHULTZE, Amtsrat of 4 SKL III. (TICOM/I-95, I-8). Variously described as head of Russian, French and American sections of 4 SKL III and as an expert on the Hagelin machine. Interrogated at Flensburg. On 21/7 was still held pending possible further interrogation.
- (iv) SCHULZE, Oberfaehnrich of 4 SKL III. Worked on English codes in 4 SKL III. Interrogations complete 21/7.
- (v) SCHULTZ, Dr. of Pers ZS. (TICOM/I-22). Mathematician, worked on Japanese machine until 1940, then on U.S. recyphered code and Strip O2. Finally assisted in Enigma investigation and solved Swiss Enigma. Interrogated and released.
- (vi) There is no evidence of anybody of this name having been employed at OKW.

*K. Perry*

S.A.C. 23rd September, 1945.



C/447

TOP SECRET



Capt D. Ginsburg,  
C.S.D.I.C. (U.K.),  
c/o Room 327,  
Hotel Victoria.

20 Sep, 45.

Re CS/2168 Uffz HERZFELD

Dear Comdr Dudley - Smith,

Regarding our telephone conversation this morning on TYPEX, it occurred to me that Uffz HERZFELD, who is as you know leaving us, might be able to provide some slight clue on work carried on at In 7/VI.

He recollects the following:

While serving with the English Referat of In 7/VI in BERLIN he read a message and deciphered either by himself or by Oberinspektor LIEDTKE from Fortress Commander TOBRUK to HQ British 8th Army. The message was sent in the period October 41 - Jan 42 and requested that an expert be sent to Fortress TOBRUK for the repair of their X machine. This was the first knowledge PW himself had of a British Cipher machine. In September 42 while searching some material for War Office cipher messages, he found a quantity of five letter group traffic. Oberinspektor ZILLMANN stated on enquiry that these were machine cipher messages and added, PW believes, that no work was being done on them at the time. PW cannot give any further details on this subject.

Yours sincerely,

*D Ginsburg*

Comdr Dudley-Smith, R.N.  
G.C.H.Q.

Copy to: Duty Officer,  
TICOM,  
G.C.H.Q.

TOP SECRET 'U'

*(Handwritten scribbles)*

DS/6(B)/1475

FURTHER ACTION ON ZIP/SAC/G.34

- 1) MEYFIG is lying and will be given a rigorous cross-examination at CEDIC shortly.
- 2) Lt. MIENTZ must be interrogated on what he told MORGENROTH.
- 3) HUEFFENHAIN to be further interrogated - probably after action in 1) above.
- 4) Oberinspektor ZILMANN of In 7/VI to be put on "Brown List".
- 5) Special endeavour to be made to trace the following - already on "Brown List" :-
  - (a) Reg. Baurat Dr. SCHULZE of OKW/Chi (? and In 7/VI).
  - (b) Sdf. Dr. LUZIUS of OKW/Chi and In 7/VI.
  - (c) Inspektor HELLER of Ref. 2 of Gruppe VI of Gen. d. NA.
- 6) ~~≡~~ Antsrat SCHULZE of 4 SKL III to be further interrogated.

*(Handwritten signature)*

22nd September, 1945.

Distribution:

- Major Perrin. To collate all available information on 5 (a).
- Major Owen. (i) To find out present whereabouts and position re MIENTZ.  
 (ii) To arrange for ZILMANN to be put on Brown List. (I.78 and SIR 1704, appendix 7, refer - in 15 (I) parts 3 and 2).
- HC.S.G. For information.

~~(B)~~  
ULTRA

6(B)

TOP SECRET 'U'

ZIE/SAC/G.34

THE POSSIBLE EXPLOITATION OF TYPEX BY THE GERMAN SIGINT SERVICES.

The following is a summary of information so far received on German attempts to break into the British Typex machine, based on P/W interrogations carried out during and subsequent to the war. It is divided into (a) the North African interrogations, (b) information gathered after the end of the war, and (c) an attempt to sum up the evidence for and against the possibility of German successes.

(a) The North African Story.

Apart from an unconfirmed report from an agent in France on 19/7/42 to the effect that the GAF were using two British machines captured at DUNKIRK for passing their own traffic between BERLIN and GOLDAP, our evidence during the war was based on reports that OKH was exploiting Typex material left behind in TOBRUK in 1942.

CX/MSS/1189/  
T 12 and 13

On 14/7/42, a special German mission consisting of Inspektor HARMS and Dr. VOEGELE was proceeding to Africa to inspect captured British material, "with a view to obtaining cypher documents and equipment such as keys, encoding machines and the like".

M.I.8 (a)  
MPH/WH

On 21/6/43, Lt. BODE of 3/N/26 (later NFAK 621) claimed that he had been engaged on translating and emending British machine messages from 1937 until 4/6/1940. The machine was "a sort of typewriter; a man just typed the nonsense stuff, and the English came out on a tape". He said that messages were of all types, army, air force and navy. "We were officially congratulated after the DUNKIRK business; we had told them some things that materially accelerated the campaign". Messages which did not decode were sent to BERLIN for special treatment. BODE stated that the man who knew most about it was a certain Sgt. WAGNER of NFAK 621 who used to work the machine. Later, however, he retracted his statement somewhat, and said that he wasn't so very sure about the machine. As this P/W seemed generally unreliable, no great importance was attributed to his statements at the time.

M.I.8 (a)  
report of  
23/8/43

On 23/8/43, however, the interrogations of Lt. HAUNHORST and Oberlt. POSSEL confirmed some of BODE's less wild statements. HAUNHORST was a divisional intelligence officer and POSSEL was O.C. of He Fu 7, the senior fixed army wireless station in Africa. Both stated that they were on friendly terms with the officers of NFAK 621, and they received information from the latter in the form of BJs.

"All high grade traffic was handled by a certain Warrant Officer WAGNER. This man had at his disposal one or more British Typex machines captured at TOBRUK, a machine resembling a German Enigma machine, and a special type of typewriter which had an adjustable keyboard. In addition a number of reference books were employed from which the Typex settings were taken. The messages were examined and the discriminant looked up in a book. This gave a reference to another reference book where the actual setting of the machine was found. In certain cases this procedure did not work, and in this case certain information was sent to OKH, BERLIN, who were able to supply the necessary information for the

Please turn over



decyphering of the traffic. All high-grade traffic is passed to BERLIN for detailed examination, and such traffic as cannot be read by any of the above means appears to be subjected to an analysing machine, which, providing some evidence regarding the traffic is available, gives results in many cases".

In a later interrogation (20/9/43), HAUNHORST said: "There were several machines about the size of a typewriter . . . It was from OKH that these funny type-written sheets came. They got some keys out themselves, somehow. I don't know how they did it, and some things they got from OKH or OKW".

He had previously described the machines as having "a central typewriter keyboard flanked on either side by two complicated hollow pots . . . A paper strip was fed out from the inside of the two pots. The machine had five drums

The bulk of the traffic was either addressed to or signed by 8th Army. "Very little traffic of the 1st Army was read". The average time-lag between T.O.I. and receipt of the BJs was 12 - 24 hours. Great secrecy was maintained, documents were always kept locked away and it was almost impossible to obtain permission to visit the office. BJs were almost invariably sent to BERLIN by courier.

Asked when the Company had its first success, P/W replied: "Some high-grade success was obtained early in 1941, but this was sporadic". He had heard from the O.C. that high-grade traffic was being read from the first days of the war. It was only after the capture of TOBRUK that the Company started to produce high-grade British BJs on any scale.

The interrogation of various officers of NFAK 621 mentioned by HAUNHORST yielded no results at all. HABEL and BREMER refused to give any information, and Sgt. SEVENHILL, at first thought to be Sgt. WAGNER, appeared to know nothing. The identity of WAGNER remained a mystery, and no further information on this subject was discovered during the war.

(b) Post War P/W Interrogations.

(i) OKH 7/VI

It is noteworthy that practically all the information above came from prisoners outside the OKH organisation, and it is interesting to look next at the statements made by OKH personnel since the end of the war.

Ticom/I-78

On 24/7/45, Oberstlt. METTIG, at one time head of 7/VI, said: "Referat ZILLMANN, despite great efforts was unable to break the English cypher machine. It is true that in 1940 several English cypher machines were captured, but in all cases the wheels were missing."

Ticom/I-48

Five days later, on 29/7/45, METTIG stated categorically that they had been successful in Spring 1942 in North Africa, and success continued until the Autumn of 1942, when SEEBOHM was captured. They had not broken in again when he left 7/VI in mid-1943. Success was cryptographic and not based on compromise by capture.

Two days later, however, on 31/7/45, he again changed his mind, said that his previous statement was rubbish and that the machine was unbreakable.

Please turn over

BUGGISCH made several statements to the effect that Typex had been studied by OKH, but without success.

Ticom/I-66

In a written report he said that a machine without wheels had been captured near DUNKIRK, together with documents in which it was suggested that there were 25 wheels belonging to it. 7/VI considered the theoretical question of whether a break would be possible with known wheel-wiring, but this was of no practical interest, since they did not know any wirings. "No single Typex message was broken while I was at 7/VI (i.e. until June 1944) and I cannot believe that this changed at all in the following months. I have also never heard of any other department engaged on cryptanalysis ever decoding a Typex message".

Ticom/I-46

In his preliminary interrogation, he said that he knew of extensive work done on Typex traffic but was uncertain of the success achieved.

Ticom/I-48

He said further that in 1942 he knew of Typex documents and of studies by others on Typex. "The Typex one showed it to be hopeless". In this connection, he said that OKH possessed excellent analytical machinery, and OKW even better.

CSDIC SIR  
1717

Reports from various OKH P/Ws show that Referat 1a of Gruppe IV under MARQUARDT did analytical work on the British machine and 1b under PIETSCH did mathematical research. Ref. 2 of Gruppe VI under Insp. HELLER co-ordinated and evaluated special intercept work for W. European (machine traffic).

Ticom/I-76

Uffz. WINGENDER stated that traffic of all machine systems were passed to BERLIN, where he understood that all such traffic (except probably M.209) was considered unapproachable. He himself had written a theoretical paper which Insp. HARMS considered impracticable, since it involved testing 2,500,000 possible settings on 2000 machines.

Ticom/I-74

Obegr. KELLER of NAK 611 stated that the British machine cypher was considered unbreakable. This statement is probably unreliable, since he also said, in opposition to other reports, that the American machine was tackled with only 2% success and was therefore not considered worthwhile.

In a preliminary interrogation report, Major HENTZE said that at ST. GERMAIN they could do anything with traffic of the big cypher machine and that they had never captured or even seen this machine.

On 6/10/44, Cpl. MALLMANN of NA 7 said that he had never heard of any German efforts to break or success in reading high-grade traffic. He believed machine to be unbreakable, and remembered Lt. BOHRER telling him that, whilst they could not read the British machine, there was comfort in our not being able to read theirs. He said that they continued to intercept traffic for Traffic Analysis and because the operators could not tell which was which.

Ticom/I-28(?)

Oberst MUEGGE said that he had never heard of OKH having any success with British machines, and believed that they had none. All traffic intercepted by his Companies in ATHENS and ROME was passed straight back to BERLIN.



Addendum to  
CSDIC/CMF/  
Y.31

DOST knew of some research on what he (and others) called "die grosse englische Maschine". This work had been done at BERLIN and Drs. SCHULZE and LUCIUS should know more about it. All he could say was that the British traffic had indicators of the type ABCDE QRSML ..... QRSML ABCDE. ((Note: DOST worked actually in 7/VI from October '41 - May '42 and March '43 - July '43, and therefore missed the vital North African period)).

(ii) OKM 4 SKL III.

Ticon/D-40

The following is the translation (in extenso) of a document on Typex discovered among the working papers of 4 SKL III captured at the end of the war and dated circa June 1944 :-

The British Cypher Machine Typex was monitored first in peace time, but only in traffic between shore stations. With the stopping of messages consisting of enciphered clear text at the beginning of the war, traffic increased considerably. It was, however, still restricted to shore stations. During the French campaign in 1940, a British cypher machine, without drums was captured. It was learnt from instructions found in connection with the machine that it was a 5-drum machine having the two outside drums fixed. It had a total of 2 sets of drums each consisting of 8 drums (black and red). Later on, the drums were combined to form one set and the colours were dropped. At the same time it was found out that further improved sets of drums, exclusively for naval traffic are being constructed, to be used for "Code" and "Cypher". At the beginning of 1941, major units were equipped with the machine. However, it was still used for personnel and administrative matters and was sent ashore as soon as the ship put to sea. At the same time it was learnt that it was planned to equip naval forces down to destroyer with the machine. Exactly how far this plan was carried out is not known. However, a new machine seems now to have been generally introduced known as the "Combined Cypher Machine", so that it is now possible to use the machine for operational W/T traffic, as was shown in connection with the landing in NORMANDY. The reasons why Typex has not so far been worked on by 4 SKL III are as follows :-

- 1) During the first years of the war increases of staff for the cryptanalytic section, although urgently asked for, were made so slowly by the competent authorities that we got seriously behind with the important main systems, and even had to draw on staff from other sections for this work.
- 2) It was known, and was confirmed in 1940 by a "pinch", that the British Cypher Machine was used only by shore stations and predominantly for staff and administrative matters, and was therefore of less importance for the conduct of the war.
- 3) Work on the British Cypher Machine with its approximately 25 unknown drums and special indicating systems would have needed a staff larger than any we ever had at our disposal, if we were to obtain any tangible results whatsoever. This opinion is confirmed by OKW/Chi, and OKH, where the machine, and especially its indicating system, was examined during 1940 - 1942.

Please turn over



Ticom/I-38

This report was borne out by the interrogations of TRANOW, who said: "The results of this work (investigation of German enigma) were not considered in their application to Typex. Before it could have been applied it would have been necessary to have both the machine and the wheels, and even then the work would have assumed vast proportions".

Again, TRANOW said: "Generally speaking, we intercepted the material in order to learn the extent of the traffic and the amount to which figure cyphers went over to Typex, but there was no question of any further work on it. Our allocation of personnel was too small ..... I examined the question of whether one could afford to attack this problem with a larger staff in view of the manpower situation. Work on the machine would have necessitated so large a staff that other more essential cypher systems would have suffered thereby. We had no captured machine, so that we had to refrain from this work". He added that he had never seen a Typex machine.

ISOS 76011

It is evident from a message, however, passed on 24/2/44 from Abwehr station LE HAVRE to VIGO that naval Typex remained a matter of interest. VIGO was given an assignment to obtain "photostatic copies of codes of the British Navy cypher machines with wheels".

Ticom/I-95

No other naval interrogations or documents make any important references to Typex, but the following significant statement was made by Lt. MORGENROTH of 4 SKL III. Lt. MUENTZ had investigated "M.209 and a large electrical machine" without success and work was suspended at the end of 1944. "As far as P/W remembers, a month's traffic over one of these machines was read at the end of the African campaign because the Army had captured the cypher sheets for that period". MORGENROTH was re-interrogated on this point on 14th September, 1945; he said said he was unable to give any details as he had learnt about the matter only in casual conversation with MUENTZ. He could not describe the electrical machine, though they had several captured models some in the charge of Amtsrat SCHULZE and some at OKW. MORGENROTH was to have been given a demonstration of these machines at AURICH (temporary location of 4 SKL III from 1st February, 1945) but this never took place. He did not know where the machines had been captured; the month's sheet of keys had been captured in North Africa.

When, after this interrogation MORGENROTH and <sup>METTING</sup>MUENTZ (who share the same room at CSDIC) were seen together, both emphasised that Amtsrat SCHULZE of 4 SKL III, who had the machines, should not be confused with "Baurat SCHULZE of OKW".

(iii) Ob.d.L.

Few references have been made by GAF prisoners to Typex; Max GERHARDT stated that all 5-letter traffic was sent direct to BERLIN from ATHENS without previous attempt at decyphering.

Please turn over

The following extract from "Tactical Observations of Ob.d.L." No. 03500/43 of 15/8/43 may be of interest: "Even when what is at the moment the most secure form of cypher - the machine cypher - is used, decoding may be possible if there is a sufficient depth of material".

LUDWIG of Ob.d.L. mentioned Typex in his interrogation: "The most frequent cypher system in RAF Command networks was a 5-letter machine cypher. It was worked on for some time in POTSDAM in Section E, but finally classed as unbreakable".

(iv) OKW

We know from the captured OKM documents quoted above that OKW must have co-operated with OKH on Typex research. It had the most advanced analytical machine section and was the department most suited to carry out a general research. Our information, however, is still very scanty.

Ticom/I-22

RAVE, who had been transferred from OKW to PERS ZS, said that new arrivals at OKW had been shown a British machine captured at DUNKIRK. "It was broken and rusty and did not work".

The only other evidence comes from HULTTENHAIN, the head of the OKW research section:

Ticom/I-2

"Typex was not broken, and so far as we know cannot be solved unless the wheel positions are known. As we believe the enigma cannot be solved, no great effort was made to solve Typex. Typex has seven wheels and we therefore believe it to be more secure than enigma".

Ticom/I-31

He said that he had seen a Typex machine captured in NORMANDY without drums. A standing order was issued for drums but he thought that none were captured.

No captures were made as far as he knew in North Africa. He gave a fairly accurate description of the machine but was uncertain whether there were 5 or 6 wheels. No mention of plugboard was made. The possibilities were too large to be worth considering. The indicator system was not studied by OKW at all. He knew nothing of OKW's work on Typex and as far as he knew no intelligence was available purely as a result of studying the indicator system independently of the cypher.

(c) Conclusions from the evidence.

We will first consider the evidence on the North African story. It is noteworthy that our only definite evidence on Typex comes from two officers who were outside the cryptographic organisation and were therefore not bound by the same security regulations as the others, and were presumably not inculcated to the same extent with the need for silence. They gave a reasonable description of the machine as seen by the outsider and a very plausible account of the method of decoding, the documents involved and the security measures taken. Indeed, the most suspicious point about the story is that in view of these strict regulations they were able to have access to the machine and learn details from the officers.

Please turn over



One piece of evidence is particularly significant. They state that the traffic involved was almost entirely 8th Army. Now at the time of the Tunisian campaign, the 1st Army was using plugboard and "WAGNER" would hardly have been equipped to deal with such a problem. The 8th Army, however, had not introduced P/B, and their traffic was therefore more vulnerable. The enemy could hardly be expected to know this if he were not breaking the traffic, and if this were a "put-up" story it was a very lucky chance indeed that he chose the vulnerable 8th Army traffic rather than the 1st Army.

The fact that decodes were invariably sent to BERLIN by courier explains why we never learnt of them from Ultra sources. Nor can we accept the statements of the officers of NFMK 621 as reliable evidence, since they were clearly concerned to give away as little as possible.

The evidence on this matter from post-war interrogations is conflicting, but it is significant that METTIG, the one man who should have known the whole story at the time, made an unguarded statement which both in time and place agrees in detail with the original reports.

It is strange that no reference to this appears in the OKM documents, which quote only unsuccessful OKH researches in 1942. Are we to assume that OKH withheld this vital information, or that OKM received this report in 1942 before the period in question and accepted it as the final evidence? We must not ignore the possibility that the Germans, knowing that the OKM documents would be captured, removed all inflammable documents before they surrendered, and in this connection it is interesting that MORGENROTH has produced a statement which may refer to the story given by HAUNHORST and METTIG. MORGENROTH's story will be followed up with MUENTZ. In any case, there is no reason to suspect that naval Typex was ever read, since neither the Navy nor the Air Force had any Typex documents in the TOBRUK area and OKM would perhaps not have asked the Abwehr for photostat copies of the machine if they had been successful in reading any traffic.

From the evidence it is easy to reconstruct a plausible story. The 8th Army left behind a machine with drums and keys at TOBRUK, and OKH immediately sent a party to investigate. All back traffic was decyphered on these keys and the style and content of the messages recorded. From these data it was possible to break into the new message setting book and perhaps new keys during the Tunisian campaign. The 8th Army continued to use the machine without plugboard and nobody to-day denies the danger of the machine when used with five compromised solid drums and no plugboard. On the other hand it is possible that some new daily drum setting keys were captured and the only cryptographic success was in fact the recovery of true message settings. This would fit in closely with HAUNHORST's references to the "funny type-written sheets" which came (apparently regularly) from OKH. The knowledge of this success was restricted to the minimum number of people, and most of those working in OKH probably knew nothing of this exploitation or at most the vaguest rumours.



But for the astonishing insecurity of NFAK 621 in confiding in officers outside the organisation, who would not appreciate the need for absolute secrecy, we ourselves should probably never have received any reliable information. Certain messages (e.g. those bearing an indicator which had already been recovered) could probably be dealt with by "WAGNER" on the spot; other problems were passed back to OKH to be tested on the "analytical machine" and the results sent to WAGNER.

If this theory is correct, and on the evidence there seems very little reason to doubt it, it is clear that LETTIG and probably HUETTENHAIN could tell us far more than they they have chosen to say. Whether the knowledge was confined to a few people in OKH and OKW, or whether the results were passed to other departments, it is at present impossible to judge.

It remains to consider the more serious question of whether the Germans were able to exploit Typex without compromised drums. It appears that machines were captured at DUNKIRK without drums and were kept in OKW. There is no evidence that they ever saw a plugboard, although they must have known of its existence and of the other complications of procedure from captured orders. Again, the Abwehr assignment at the beginning of 1944 suggests that they captured no machines subsequent to North Africa. Ignoring BODE's unconfirmed statement that Typex was exploited prior to DUNKIRK, how much reliance can we place on HAUNHORST's statement that NFAK 621 had had sporadic success in 1941? It should be noted that this statement was made in reply to a question on "high-grade" traffic, and not specifically on Typex. It probably relates to the now known breaking of Cypher 'W'.

There is insufficient evidence to answer this question. It is clear, however, that if the North African story is true, OKH must have had extensive machinery ready to cope with such a situation, and had presumably used such machinery in an attempt to break earlier traffic. These are the researches at OKH and OKW referred to in the OKI documents. HUETTENHAIN's statement that OKW had not studied the indicator system, coming from the head of the research section, is too simple to be credible and is at variance with the OKI document quoted above.

It appears that HUETTENHAIN has misled us on the subject of Typex. Great emphasis is laid on the idea that they considered enigma, and therefore Typex insoluble. Why, then did they devote so much time to the study of enigma and attempts to produce a securer type of machine? No German would credit the statement that we made no attempt to solve German enigma because we believed Typex to be insoluble. It is clear that they had little doubt of the theoretical solubility of Typex at least in the earlier part of the war. Interrogations have so far failed to elicit whether they had any practical success, and what stage they reached in their researches. At present we can only say that Typex with five compromised solid drums and no plugboard was soluble and was quite probably solved.

G.C.C.S. (S.A.C.)  
22nd September, 1945.

Distribution:  
The Director  
H.C.S.G.  
H.C.G.  
Spere (6)  
S.A.C. File (2).